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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Mechanism of Vomiting.*
By DAVID ANDERSON, M.D. Edin.

[The chief part of the subjoined observations is the substance of an Inaugural Dissertation, submitted to the Medical Faculty of the University of Edinburgh in 1842, when the author was a candidate for the degree of Doctor of Medicine.]

THE importance of the act of vomiting, both as a symptom in disease and as a therapeutical agent, renders a knowledge of the mechanism by which it is effected of the first moment to the physician. On this head, however, physiologists are by no means agreed; and it will be the object of the writer, in the following paper, to select, from the conflicting opinions which have at different times prevailed, that which is best supported by phenomena in health and in disease, and by experiments upon living animals.

The oldest authors seem to have been agreed in considering the act of vomiting as the result of convulsive contractions of the stomach itself; and this opinion appears to have been universally received till towards the end of the seventeenth century. It was first called in question, in 1681, by Bayle of Toulouse,[1] who from certain experiments, concluded that the stomach is nearly passive in vomiting, and that this action is effected by pressure exerted upon that viscus by the simultaneous action of the diaphragm and abdominal muscles. From this time till the year 1828, one or other of these opinions, more or less modified, swayed the minds of the profession; and they were severally supported by many interesting experiments and observations. I shall give a brief summary of the evidence on both sides of the question, and then draw that conclusion which appears most warrantable.

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[1] Dissert. sur quelques points de Physique et de Médecine, Toulouse, 1681.

In the experiments of Bayle, Chirac,[1] Haighton,[2] and Magendie,[3] the stomach could not be felt or seen to contract during vomition, nor could this process be accomplished when that organ was guarded from external pressure. Magendie and Piédagnel[4] have proved that the pressure exerted upon the stomach by surrounding muscles, is sufficient to cause vomiting, if that organ and the parts above it merely offer no resistance. On the other hand, Wepfer,[5] Haller,[6] and Sauvages,[7] saw in animals, to which they had given corrosive mineral or other violent poisons, antiperistaltic motions of the stomach which were, in some cases, adequate to the expulsion of part of its contents; and a similar result has been lately obtained by Dr Julius Budge,[8] (1840). Portal[9] states that in a dog which had been made to vomit by the administration of arsenic, and whose abdomen was opened, he observed the stomach alternately relax and contract itself with force, and always when the diaphragm was carried into the chest, or during expiration. This evidence would be very strong, were there no source of fallacy. But, without absolutely asserting that it is incorrect, I may mention that an appearance similar to this alleged contraction of the stomach synchronous with the ascent of the diaphragm, I have seen when the abdomen was laid open by a longitudinal incision through the linea alba and peritoneum, and the viscera partly turned out. As the diaphragm descended, the stomach was carried before it, and as it receded towards the chest in expiration, that viscus was dragged along with it. The stomach was thus made partially to slip behind and again to escape from the contiguous organs, during the ascent and descent of the diaphragm respectively; and, it being in a semiflaccid condition, an appearance, in some degree resembling alternate contraction and relaxation, was thus given to that viscus, although its fibres seemed to be entirely quiescent. Lieutaud[10] relates the case of a man who, in the course of his disease, could not be made to vomit by frequently repeated doses of the tartrate of antimony, and whose stomach was found after death enormously distended, though he had for several days before death taken almost nothing. The intestinal canal was, on the other hand, remarkably contracted,—so much so, indeed, that the total volume of the intestines scarcely exceeded that of the stomach. This inordinate distension of the stomach he attributed to paralysis of its muscular tunic; and the inability of the patient to vomit, although he is said to have frequently experienced nausea, he conceives to afford incontrovertible proof that that organ is the essential agent in the upward discharge of its contents. I have, however, seen a woman, under treatment for fever, resist the emetic operation of large and repeated doses of tartarised antimony, ipecacuan, and sulphate of zinc,—though intense nausea was induced,—while they had the effect of producing smart catharsis. Lieutaud's case, therefore, cannot be considered as conclusive; as, in the case last adverted to, the same inability to vomit was observed, though there was no paralysis of the stomach. He, however, adduces strong evidence in the case of a young man, whom he had some years previously attended for an "inflammation of the abdominal muscles." He affirms, that although the patient suffered inexpressible pains when he coughed, spat, or blew his nose, yet he vomited frequently in this condition with as much ease as at other times. From this fact, certainly, we must conclude that the stomach was here the sole expulsive power; for contraction of the abdominal muscles must have been attended with equal suffering as in the case of coughing or blowing his nose; and action of the diaphragm, by protruding and stretching the passive abdominal muscles, must also have been attended with a degree of pain. Bourdon[1] brings forward a case of complete scirrhous degeneration of the stomach, in which no vomiting occurred, though the patient frequently experienced nausea, especially after meals; but, on the other hand, cases of cancer of the whole stomach are recorded by Piédagnel[2] and Gondret,[3] in which vomiting was a common symptom up to the time of death. As, therefore, negative must always give way to equally authenticated positive evidence, we must, in those instances where vomiting was not observed, or could not be induced, refer the non-occurrence of that action to some other cause than loss of the contractile power of the stomach, from the diseased condition of its coats. A similar remark may be made in reference to cases in which the stomach is situated above the diaphragm. An instance of this sort is quoted by Piédagnel from Riviére's *Observationes Medicæ*, in which an antimonial emetic failed to produce the expulsion of any matters from the stomach, although it excited very violent efforts to vomit. But, as several cases are on record, as shall be more particularly adverted to hereafter, wherein a similar malformation existed, and in which vomiting was by no means unfrequent before death, we must refer the absence of that process, in the case just noticed, to some other cause than the abnormal situation of the stomach. It is asserted by Haighton,[1] that when the par vagum of a dog is divided, though intense nausea and violent retching are induced, no vomiting can be effected, even when the influence of an emetic is superadded. This, however, is now known to be erroneous; for vomiting ensues spontaneously after division of the eighth pair.[2] Indeed, it can be readily understood how vomiting should occur on the slightest effort after section of the pneumogastrics, when it is considered that the œsophagus and cardia are thus paralysed.[3]

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[1] *Vide* Miscellanea Curiosa, Dec. 2, An. 4, Obs. 125.

[2] Mem. of Lond. Med. Soc. Vol. 2, p. 256. [3] Mém. sur le Vomissement, Paris 1813.

[4] See his Memoir in Magendie's Journal de Physiol. Expér. t. 1, p. 251.

[5] De Cicutâ Aquaticâ p. 112. Leyden Edition, 1733.

[6] Element. Physiol. t. 6, p. 281. 1764. [7] Nosol. Method. t. 2, p. 336-7. 1768.

[8] See a review of his work in Brit. and For. Med. Rev. for January 1843.

[9] Mém. sur plusieurs Maladies, 1819, t. 4, p. 276.

[10] Mém. de l'Académie des Sciences, 1752, p. 332.

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[1] Mém. sur le Vomissement, 1819. [2] Loco citato. [3] Eodem loco, p. 280.

It appears from the observations of Beclard[4] that, during nausea, the œsophagus has an inverted action; but it is not evident that these antiperistaltic contractions could be of much service during the actual expulsion of matters from the stomach; for, as Professor Arnold[5] justly remarks, "a very free and rapid vomiting is possible only when the œsophagus is passive and opposes no resistance to the impelling cause which brings about the vomitive crisis."

The appearance of bile towards the termination of full vomiting has been reasonably considered to prove, that inverted action of the duodenum must attend at least the state of intense nausea; for, if it depended merely upon external pressure during the effort, as the stomach offers so much greater an extent of surface than that part of the intestine, we should rather expect the contents of that organ to be forced into the duodenum than the converse to obtain.

It appears, then, fair to conclude that the forcible expulsion of the contents of the stomach by the mouth is effected chiefly by the simultaneous contraction of surrounding muscles, which thus exert pressure upon that viscus; but that antiperistaltic contractions of the stomach and upper portion of the duodenum, with relaxation of the cardia and œsophagus, form an essential part of that process.

Magendie conceived that he had proved the agents which exert pressure upon the stomach in vomition to be the diaphragm and the abdominal muscles; and, with a view to determine the comparative influence which these respectively exercise in that act, he instituted the following experiments:—

1. He cut the phrenic nerves of a dog in the neck, and then injected into the jugular vein gr.iii of tartar emetic. There ensued only a very feeble vomiting; and a repetition of the injection, a quarter of an hour after the former, failed to excite that action. He opened the abdomen, and endeavoured to produce vomiting by

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[1] Loc. citat. Appendix, p. 513.

[2] Müller's Physiology, translated by Bayle, vol. i. p. 556.

[3] See Longet's work on the Nervous System, Art. "Nerf Pneumogastrique."

[4] Dict. de Médecine, art. Vomissement.

[5] See Review of his work upon Vomiting in Brit. and For. Med. Rev. for Jan. 1843.

compressing the stomach with the hands. This, however, failed to induce any effort, nor did it even appear to excite nausea.[1]

2. He detached successively the great oblique, the recti, and the transversales muscles, from the anterior wall of the abdomen, leaving only the linea alba and the peritoneum. He injected gr.iii of tartar emetic into the jugular vein, and almost immediately nausea and vomiting manifested themselves in contraction of the diaphragm alone; and the whole intra-abdominal mass was then seen to be pushed downwards and strongly pressed against the peritoneum, which was ruptured in some places.

From these two experiments he inferred, that the diaphragm is the chief agent in vomiting.

It appears to me, however, that this conclusion has been too hastily formed, and that certain circumstances have been overlooked, which must have materially contributed to the production of the results upon which that deduction was founded. In the first place, the feebleness of the vomiting which, in the former of these experiments, was observed to follow division of the phrenic nerves, must be partly ascribed to the cessation of a function of the diaphragm which is exercised prior to the effort. For, in the full inspiration which precedes the act of vomiting, the diaphragm descends, carrying downwards and forwards the viscera, and increasing the arch of the anterior wall of the abdomen; and greater effect is thus given to the contraction of the abdominal muscles. Again, some influence must be also due to a degree of failure of the vital powers, in consequence of deficient arterialization of the blood, resulting from the complete subtraction of the diaphragm as a muscle of inspiration. Besides, we know that the immediate cause of vomiting is the previously induced state of nausea; we also know that the most powerful means of stopping or preventing any of the involuntary actions, is to excite a new sensation more powerful than that which produces the act in question;[2] and it is equally certain that of all the sensations which prompt to involuntary movements, that induced by imperfect oxygenation of the blood is the most intense and imperious. This sensation, then, which, in ordinary respiration, though felt, and in all cases the immediate cause leading to the respiratory movements, is so slight as not to engage the attention of the individual, being inordinately excited by the sudden paralysis of the most powerful inspiratory muscle, overpowers, more or less completely, the weaker sensation of nausea, and enfeebles, in the same proportion, the dependant act of vomiting. And this view appears to be strongly borne out by the fact, that, in the experiment alluded to, a second injection of tartar emetic, a quarter of an hour after section of the phrenics, failed not only to excite any effort of vomiting, but even to induce nausea, though aided by compression of the stomach with the hands.

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[1] Magendie found that efforts of vomiting were, except in the experiment related above, invariably produced by compression of the stomach with the hands, even though an emetic had not been previously administered; and in one dog, he induced retching by simple traction of the oesophagus.

[2] See Alison's Physiology, p. 387.

We have, then, in this experiment, not only one of the mechanical powers of vomiting taken away, but the sensation which excites equally all of these powers weakened, and the fluid which is the support of all vital actions vitiated. In the experiment wherein he bared the peritoneum throughout the whole extent of the "anterior wall" of the abdomen, except where covered by the linea alba, there would still be left a large mass of muscular substance behind and at the sides, viz., the quadrati lumborum and the sacro-lumbales, and part of the tranversales and obliqui interni, and, perhaps, also of the obliqui externi; and these would, by pulling down the ribs during the effort of vomiting, shorten the abdominal cavity, urge the viscera forwards against the peritoneum, and thus aid in producing the result which Magendie ascribes to the action of the diaphragm alone. True it is that Magendie, in his account of the experiment, states that vomiting was manifested "par le seul fait de la contraction du diaphragme;" but do we not find all the abdominal muscles to be associated with each other in forced expiration, as blowing, sneezing, coughing, &c., and in the expulsive efforts of the abdomen; and may not his views of the preceding experiment, in respect of the great power of the diaphragm in the act of vomiting, which he conceived that experiment to prove, have made him, while conducting the second, apt to overlook the aid which the muscles that were left upon the abdomen afforded to the diaphragm, in the production of vomition, and the rupture of the peritoneum?

It therefore appears to me, that we require additional evidence before we can legitimately attribute greater power to the diaphragm, in the act of vomiting, than is exercised by the more bulky abdominal muscles.

No one who admitted the application of external pressure upon the stomach in the act of vomiting, doubted the correctness of referring that pressure to the conjoint action of the diaphragm and abdominal muscles, till the appearance of a paper by Dr Marshall Hall, in the *Quarterly Journal of Science* for June 1828. This physiologist denies the participation of the diaphragm in that act. His view of the mechanism of vomiting is this:—"The contents of the thorax and abdomen are subjected to the sudden and almost spasmodic contraction of all the muscles of expiration, the larynx being closed so that no air can escape from the chest, and the two cavities being made one by the floating or inert condition of the diaphragm." This opinion was formed from the same considerations which Lieutaud,[1] in 1752, urged in disproof of the diaphragm's contraction, viz., that vomiting is an expiratory effort, and that we cannot, therefore, suppose the diaphragm, the most powerful inspiratory muscle, to assist in that process; for its contraction would be followed by inspiration, and "if this were the case," adds Dr Hall, "the fluids ejected from the stomach would be drawn into the larynx, and induce great irritation—events which have not been observed." That vomiting is an effort of expiration, is rendered sufficiently evident by the distended state of the superficial veins of the neck and forehead during that action, as well as by the great efficacy of the full operation of an emetic in unloading the bronchial tubes. This, however, Marshall Hall has placed beyond a doubt, by the following experiments which I shall transcribe in his own words:—"I took a little dog, made an ample opening into the windpipe, and gave a few grains of the subsulphate of mercury; the animal soon became sick. The first efforts to vomit induced a forcible expulsion of air through the orifice in the trachea. These efforts soon became very violent, however, and the stomach at length yielded part of its contents. . . . The act of expiration was so forcible, that a lighted candle placed over the tracheal orifice was several times extinguished. In a second experiment a free opening was made into the thorax between the sixth and seventh ribs of the right side. The lung collapsed partially only. During the first efforts to vomit, air was forcibly expelled through the orifice, the lung was brought almost into contact with it; the stomach was not evacuated, but the efforts to vomit became extreme, a portion of lung was driven through the thoracic opening with violence and a sort of explosion, and at the same instant the stomach yielded its contents." Thus is established, beyond a doubt, the opinion that vomiting is an expiratory effort. But this fact is not sufficient to prove that the diaphragm does not assist in that act: for it is by no means certain that contraction of the diaphragm would be followed by inspiration, if the abdominal muscles act powerfully at the same time. We should rather expect that these muscles, being much more powerful, would, by pulling down the ribs, more than compensate for the degree of elongation of the thoracic cavity, effected by the contraction of the diaphragm. Besides, this muscle will be able to descend only to a small extent, in consequence of the great resistance offered by the viscera propelled upwards by the abdominal muscles; and, on this account, when no longer able to descend, it will, acting from its fixed centre, tend strongly to approximate the ribs, and thus aid in compressing the organs both above and below it,—and the more remarkably, as the full inspiration which precedes the effort will have brought the diaphragm nearly to a plane.

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[1] Loco citato.

Dr Hall's views were republished in *The Lancet* for April 21, 1838, being embodied in his *Lectures on the Theory and Practice of Medicine;* and, in farther proof of the inaction of the diaphragm during vomition, he therein cites, from a paper by Drs Graves and Stokes, in the fifth volume of the *Dublin Hospital Reports*, the case of a man who died of tubercular phthisis, who had frequently vomited while in the Meath Hospital, and whose stomach was found after death, to be situated above the diaphragm, in the inferior portion of the left thoracic cavity. Another case of this kind is recorded in the first volume of *Guy's Hospital Reports.* If, however, the correctness of the remarks stated above be admitted, it will also be readily granted that the stomach, in such cases of malformation, is not removed from the influence of the diaphragm's contraction, in the act of vomiting.

To the view which recognises the diaphragm as an agent in vomition it has been objected,[1] that, as the œsophagean aperture in that muscle is formed of muscular fibres, contraction of the diaphragm would close that orifice, and thus oppose a mechanical obstacle to the escape of the stomach's contents. Be it granted that such an effect would follow contraction of these fibres, it is not contrary to analogy with other muscles (as the deltoid, glutæi, &c.) to suppose that, as the fibres which surround the œsophagean opening are a continuation of the lumbar portion of the muscle, the crura may be inactive during the effort of vomiting, while the expanded portion is in contraction.

The opinion that the muscular fibres of the diaphragm are actively engaged in vomiting, seems to be supported by two cases related by Boisseau,[2] in which that muscle was torn by violent vomitive efforts. It would, I apprehend, be difficult to explain this occurrence by a reference to Dr Hall's theory; for the mere fact of the diaphragm's suffering compression in common with the viscera of the chest and belly, many of which possess weaker powers of resistance, would not account for its laceration; while excessive contraction of its fibres affords a satisfactory explanation of the accident.

Dr Hall, in his account of his first experiment, makes the following statement:—" It was perfectly evident that the violent contractions of the abdominal muscles pressed upon the viscera of the abdomen, so as to carry the diaphragm upwards to its fullest extent, and at this moment vomiting was effected." Therefore, conversely, he would explain those instances in which, as is asserted by Haighton[3] and others, dogs were excited to vomitive efforts after the abdomen was opened, and in which the diaphragm was seen to descend during each effort, by referring the descent of that muscle, not to contraction of its own fibres, but to its being *forced* down by the air within the chest, compressed by the expiratory effort produced by the contraction of the abdominal muscles. It occurred to me that a simple mode of testing the accuracy of Hall's beautiful theory, would be to open the trachea, as in his first experiment, and, by introducing the finger into the abdomen, ascertain the actual condition of the diaphragm during vomition. If, during the effort, the diaphragm should be elevated towards the chest, a decisive proof of Hall's theory would be afforded; but should that muscle, on the other hand, maintain its position, or, still more, should it descend towards the belly, as strong would be the proof of contraction of its fibres, there being free access of air from the lungs, through the orifice in the trachea.

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[1] Dr C. Davies in 2d vol. of Lancet for 1837-8, p. 266, and Lieutaud, loc. cit.

[2] Nosographie Organique, t. ii. p. 624.

[3] Loc. cit.

1. Twenty-five grains of tartarised antimony, dissolved in milk, were given to a middle-sized dog. About fifty-five minutes thereafter, he vomited a considerable quantity of milk, and I immediately made a free longitudinal opening into the trachea, and divided the linea alba close to the ensiform cartilage, to an extent barely sufficient to admit two fingers. Having, for a short time, waited in vain for a renewal of the vomiting, I injected into the right crural vein a quantity of tartarised antimony, which soon caused great distress, but no recurrence of the vomiting. I then introduced the fore and middle fingers into the aperture in the abdomen, and passing them over the stomach, I seized between them the lower end of the œsophagus, and used strong traction downwards. Violent efforts of vomiting were immediately induced, causing the expulsion of a considerable quantity of milk; and, at the same moment—that is, during the effort by which the milk was discharged—the diaphragm became tense and rigid, and descended towards the abdomen. This was repeated several times, both by myself and the gentlemen who assisted me, and with the same result. I took especial care that the opening in the trachea remained perfectly free, inspiration and expiration taking place by it alone, no current passing through the glottis.

This experiment is liable to the objection, that the excitation of the diaphragm was effected by too direct means. In the following experiment, in which there was no such source of fallacy, the same result was obtained:—

2. I gave to a middle-sized dog two scruples of tartar emetic, dissolved in milk. After waiting a considerable time without vomiting having occurred, I injected into the crural vein a solution of four grains of tartarised antimony in three ounces of water. While the solution was being thrown into the vein, the animal exhibited marked symptoms of distress. I immediately slit up freely the trachea, and was proceeding to make an incision through the upper part of the linea alba, when the dog began to vomit; and on introducing two fingers into the opening which I had now made into the abdomen, I felt the diaphragm to be strongly contracted during each effort of vomiting. This was also perceived by the gentlemen who assisted me, and again several times by myself, the vomiting being frequently repeated. In this, as in the former experiment, especial care was taken that the respiration was carried on exclusively through the tracheal aperture.

The last experiment appears decisively to prove the active participation of the diaphragm in the act of vomiting.

Haighton,[1] after relating the occurrence of ineffectual vomitive efforts in a dog whose abdomen was opened, makes the following statement: " In these attempts air was taken in by the mouth, and every succeeding effort increasing the distension of the stomach, it became at last as tense as a drum." This interesting observation of distension of the stomach with air during nausea, the origination of which seems to be universally ascribed to Magendie, although this physiologist did not notice it until the year 1813, does not appear to have been first made even by Haighton; for, in his prefatory remarks, he alludes to an account of some experiments made some time previously in France, wherein it was asserted, " that the stomach, instead of contracting its capacity, is evidently enlarged at the moment of expulsion," and to a similar experiment afterwards performed in Edinburgh, in which the stomach " was evidently distended, prior to the moment of expulsion, from a quantity of air taken in by the mouth." Moreover, it appears to me that Wepfer, in 1675, in his work *De Cicutâ Aquaticâ*, more than once alludes to the same phenomenon. After mentioning, that in dissections of living animals he had frequently observed vomiting caused by antiperistaltic contraction of the stomach, he adds, " nonnunquam gracilior et brevior reddebatur; *mox iterum intremuit* (ventriculus,) subsequente rursus novâ coarctatione."[2] Again, in detailing an experiment in which inverted motion of the stomach of a dog had been excited by the administration of nux vomica, and in which he had opened the abdomen, he says, " relaxatâ contractione magis distendebatur (ventriculus) et amplior, quam contentorum fluidorum et crassiorum moles postulabat."[3] But he still more unequivocally alludes to this phenomenon, in his account of another experiment, wherein he excited vomiting by corrosive sublimate, and drew the stomach through an opening which he had made in the abdomen: he states that, " presso (manibus) ventriculo flatus per os elidebantur; *mox tamen rursus flatibus impletus fuit*."[4]

That the air which fills the stomach in such cases comes from the œsophagus, was proved by the same phenomenon being observed in one of Magendie's experiments, after a ligature had been applied upon the stomach near its pyloric orifice. Three explanations of the mode of its production have been offered. " Dr Budge," says the reviewer of his work on vomiting, " remarks, that the entrance of air is a consequence of the distension, not the cause of it. He designates the distension 'an active movement or exertion' (bewegung) of the organs, and thinks it in a great measure due to the contraction of the pylorus, on the one hand, and of the œsophagus, on the other."[5] We do not learn that this opinion has better foundation than mere conjecture; and it is difficult to conceive any combination of contractions of the muscular fibres of the stomach, which could effect an augmentation of its capacity. Professor A. T. Thomson of London, states that, in vomiting, the mouth, the œsophagus, and the stomach form one continuous cavity; and he accounts for the distension of the stomach, by saying that "it is evident that the external air, which is heavier than the air and vapour contained in the stomach, will be necessarily forced into this organ by its mere gravity, as it would be into a receiver containing the vapour of water and little or no air."[1] It will be admitted that in the circumstances which he mentions, the external air will, obeying the law of gravitation, descend into the stomach and *displace* the comparatively light and rarified gases contained in that viscus; but, the moment this has taken place, an equilibrium is established, and the pressure of the air within the stomach being balanced by that of the air on the surface of the abdomen, the organ will maintain the same degree of distension which it possessed at the commencement.

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[1] Loc. citat.

[2] *Vide* Leyden edition, 1733, p. 112.

[3] Loc. citat. p. 253.

[4] Loc. citat. p. 374.

[5] Brit. and For. Med. Rev. for Jan. 1843.

The most plausible explanation is that of Dr M. Hall.[2] It is as follows: "The larynx being closed preparatorily to the act of vomiting, an attempt at inspiration is made before the effort of expiration. In this attempt, air is drawn into the œsophagus, the larynx being impervious, and it is afterwards probably propelled along that canal into the stomach itself." If this view be correct, no distension of the stomach should take place while there exists a free artificial opening in the trachea. To determine this point, I performed the following experiment:—A large dog was obtained, and fixed upon a table. The trachea was first freely opened, the linea alba was then incised from the ensiform cartilage to about midway between the umbilicus and the pubes, and, lastly, a quantity of tartar emetic solution was injected into the crural vein. After the lapse of about two minutes, there commenced strong and simultaneous contractions of the diaphragm and abdominal muscles, which, recurring at intervals, and gradually increasing in intensity, became at last so painful that the urinary bladder was forced out of the abdomen with great violence. Neither during the persistence of these efforts, nor during the intervals between them, could any alteration of the bulk of the stomach be perceived. With each effort, however, there were considerably increased fulness and tension of the part of the stomach which was entirely out of the abdomen; but this was evidently owing to compression of its pyloric and cardiac ends forcing the contents of these portions into the great curvature, which was not under the influence of the same pressure. I repeated the experiment with the trachea entire, and during the violent but abortive efforts, air was drawn into the gullet, with great noise, and the stomach became enormously distended. Dr Hall does not allow the diaphragm any share in the production of this phenomenon; but in the experiment which I have just related, there was observed strong action of that muscle, at the moment when the noise in the throat indicated the passage of air into the gullet. The truth, however, of his opinion,—that the entrance of air into the œsophagus is caused by an inspiratory effort being made during closure of the larynx,—does not appear to admit of doubt. If, however, this phenomenon occurs to any considerable extent in ordinary cases of vomiting, it is probable that it is caused chiefly by a succession of spasmodic inspirations which occur during nausea, and are attended, towards their termination, by closure of the glottis, in anticipation of the effort of vomiting, but which are not followed by effective contractions of the muscles concerned in the act of vomiting, as these would invariably have the effect of re-expelling the air by the mouth.

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[1] Elem. of Mat. Med. and Therap. 1835, p. 700.

[2] Loc. cit.

NOVEMBER 20, 1843.

ARTICLE II.—*Cases of Vesico-Vaginal Fistula; complicated in one of the cases by the presence of Stone in the Bladder, successfully treated.* *By* WILLIAM KEITH, M.D., *one of the Surgeons to the Royal Infirmary, Aberdeen, and Lecturer on Clinical Surgery in that Institution.*

CASE 1.—*February* 4, 1840. Janet Shirress, aged 30, a widow, mother of four children, was admitted into hospital, complaining of severe and constant pain in the region of the bladder, and constant distillation of urine from the vagina, along with troublesome micturition after each of her very frequent calls to make water.

She states, that she was delivered of her first child in September 1831, by the forceps, after having been in labour for forty-eight hours; that for fourteen days after, she made her water by the natural passage, when the urine began suddenly to flow through a new and artificial opening into the vagina; and that, after a tedious illness, she recovered her health, and subsequently gave birth to three children, in successive pregnancies, but never was able to retain her water for an instant, until the beginning of 1839, when she contrived to plug the false opening with a pint-bottle cork, after which, although a portion drained away, she enjoyed comparative comfort, and again expelled her urine by the urethra.

In the month of May 1839, the cork slipped into the bladder. For some time this occasioned no uneasiness, except from the return of the urine wholly through the false passage, but at length she became afflicted with the usual symptoms of stone in the bladder.

As these became aggravated, she recovered the power of retaining her water, and this so entirely before the close of the year, that she then passed the whole of her urine by the urethra. For a fortnight past, the irritation from the stone has become intolerable, and owing to an unceasing desire to make water, the urine drains off so as to keep her constantly wet, although she still makes a portion by the natural canal.

On examination, a fistulous opening, capable of admitting a No. 16 catheter, was readily detected an inch and a half behind the orifice of the urethra, communicating directly with the bladder, and a stone of considerable size was felt within that organ on sounding.

February 5th. Crushed the stone by the screw lithotrite.

February 10th. A number of fragments have come off.

February 25th. Crushed three large fragments, and broke up the cork.

February 27th. Portions of the cork, and quantities of *débris* have passed off.

March 4th. Crushed several portions of cork.

March 6th. No calculous matter to be found. Seized what remained of the cork, and withdrew it in the clams of the instrument.

March 7th. Free of every symptom of stone; but now the urine escapes wholly by the false passage.

To make some family arrangements, she left the hospital at this date, and was re-admitted on the 27th of May. At this time, she was cured of stone, but urine was coming by the false passage.

May 29th. The vagina being opened by a speculum, a button-headed cautery, at a white heat, was with ease applied to the fistula, so as to form a slough including the edge of the false opening all round. She experienced no pain from the application.

May 31st. No urine has escaped by the fistulous opening since it was cauterized.

June 4th. An oozing having begun yesterday, the cautery was applied again this day.

June 10th. No oozing since last report.

June 20th. The linen is at times just moistened; the cautery was again applied.

July 12th. The same operation was repeated for the same reason.

At this time, she went into the country as a field servant, worked out the harvest, and returned in December to say that for months she had been quite cured. She continues at this date, November 1843, perfectly well.

Several points of interest attach to this case. *First*, It affords convincing evidence, from the effect produced on the fistula by the presence of her calculus, that were a foreign body of a smooth and unirritating character, of sufficient weight, introduced into the bladder in cases of vesico-vaginal fistula—the body would act as a bullet valve, and not only keep the patient dry, but actually *favour* the contraction of the false opening. After seven years in the above case, the opening admitted a pint cork, with so much ease that it slipped through, but after a foreign body was lodged in the bladder, nine months sufficed to reduce the opening to less than one-third of its previous size, and it could only have been during the latter six months of that period, that the cork could have acquired density and weight enough to operate as a valve plug. I would suggest a small thin bulb or bag of Indian-rubber filled with mercury. Should incrustation happen in the progress of the cure, a squeeze with a screw lithotrite, or percussor, or a long œsophagus forceps, would throw it off, and at last when the opening had contracted to such a size as to admit of its ready cure by the cautery, the thin bag could be easily burst or punctured, and then withdrawn by the urethra.

2dly. If asked, why I deprived myself of the bullet-valve, while cauterising in the above case?—I reply, that the constant straining kept up by the rough stone, arising from the inflamed state of the mucous membrane of the bladder, kindled and kept up by its presence, obliged me to remove a source of irritation, sufficient to defeat, in more ways than one, any effort of nature at adhesion.

3dly, It is worthy of remark, that the application of the cautery inside the vagina occasions nothing deserving the name of pain; and this observation I have had repeatedly corroborated. The heat of the reflected rays may be felt; but I have never found patients say that they really felt pain.

4thly. It is advised by high authority, to allow of long intervals between each application of the cautery, that time may be afforded for the consequent contraction of parts: the advice is judicious; but it applies chiefly to cases where the orifice is large, and where there is much to accomplish in the way of closing in. My bullet-valve, will, in future, aid the process much in such cases; but I beg to remark, that where we have a fistulous opening of the size of a female catheter, for instance—and where, as in the preceding and succeeding cases, we are able at once to make the edges approximate, then I would urgently advise the frequent use of the hot iron, so as to keep up a raw edge, as well as a complete closure, thereby to ensure adhesion, and complete obliteration at once.

CASE 2. *July* 24, 1841. Mrs Paterson, aged 36. She complains, that while in bed, or when in a reclining posture, her urine distils away from her without her being able to restrain it, and states, that while sitting up, or walking about, she can retain it with some difficulty for two hours.

She traces her disease to a severe labour, which she had in May 1839, when, after being very ill for twenty-four hours, she was, with great difficulty, delivered by the forceps, of a dead child. For a week after this occurrence, she was able to make her water as formerly, when she became sensible of the urine flowing from her in bed as fast as it was secreted. She has been under treatment for the complaint almost ever since; but never for a moment was sensible of deriving the slightest benefit. It has always been represented to her as a weakness—paralysis of the sphincter vesicæ.

On introducing the speculum vaginæ, the pressure was sufficient to squeeze out a quantity of thickened mucus from the orifice of the urethra, making it quite apparent that no urine had passed by that canal for some time; the narrow calibre of that channel, evidenced by the small size of the roll of butyraceous stuff as it escaped from the orifice, indeed proved that the passage had contracted greatly from long want of use.

To the right side of the central line, and fully two inches deeper than the orifice of the urethra, a vesico-vaginal fistula was very apparent; a male catheter was at once introduced by it into the bladder, giving passage to what urine it at that moment contained. The size of the opening was such as to admit the little finger readily.

July 25. The speculum was introduced, and the edge of the false passage freely touched with a button-headed cautery, at a white heat. The operation did not occupy three seconds; a smoke and singed smell were created, but not the slightest pain was felt.

July 26. Slept well through the night. Has not felt the slightest uneasiness. Not a drop of urine has escaped since the operation. Arose at her usual hour; and, for the first time for two years, from a dry bed. Is now sensible that her urine flows through the natural canal.

July 27. Well; easy; dry and comfortable; went to bed at 11 P.M., and arose at 8 A.M., having retained the urine the whole night, without one drop having escaped. Out, and going about.

July 28. Same as yesterday.

July 29. Examined by the speculum. A suppurating sore, of the size of a shilling, covers and surrounds the false opening. A few drops of urine exuded, on the parts being put on the stretch by the speculum. Applied the cautery, for an instant, to the spot, to deepen the ulceration a little. She assured me that she did not feel the touch of the cautery.

July 30. No uneasy sensation; not one drop of urine has escaped; makes or retains it at pleasure; bowels regular; out, and going about.

Aug. 3. Continues well and dry.

Aug. 4. States, that last night a few drops of water must have come by the false passage, as her linen was damp; and that to-day, although the great bulk of urine comes by the urethra, yet during the expulsive effort, she is sensible of an ooze going the wrong way.

Aug. 5. Inspected by the speculum, and found a small opening like the open end of a female catheter, with very red edges, in the centre of a grey-coloured suppurating sore, fully larger than a sixpence; a small stream of urine squirted from the false opening, on the instant that the blades of the speculum were fully expanded. Laid the button of the cautery at a white heat on the very opening, for two seconds; the spot was sensitive; and for a few seconds she complained of smarting pain.

Aug. 6. Had a good night; not a drop of urine has escaped; feels no uneasiness.

From this time there never was any return; and she soon afterwards went into the country, where she resides. I have since heard repeatedly that she continues perfectly well.

In addition to the remarks made at the close of the first case, I would only allude to the circumstance of both having had the disease produced in the same way; not, in my opinion, from the use of the forceps, as had been alleged; but from their not having been called into aid sooner. The steady pressure of an impacted head, against the symphisis pubis, or any opposing part of the pelvis, for twenty-four, not to speak of forty-eight hours, is enough to rob any soft viscus, subjected to such violence, of its vitality,—at least that spot of it, on which the point of pressure or resistance rests; and thus, in those cases had it happened. In the first,—the patient being much reduced,—the process of separation and casting off the slough took fourteen days; while in the latter, the patient being more vigorous the process was accomplished in a week. Laceration it was not, and could not have been, else the escape of urine would have been instant, and continuous from the hour of delivery. It may seem superfluous to some, to state this; but to such as are acquainted with the erroneous impressions existing on this point, out of the profession,—among a class entitled to our warmest sympathies,—it will be felt as not only appropriate, but likely to be useful, as calculated to induce a more ready acquiescence in any proposal to call in medical aid earlier; or when called, to yield a ready consent when operative assistance is thought necessary.

257 UNION STREET, ABERDEEN,
13th November 1843.

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ARTICLE III.—*On the Statistics and Treatment of Fractures, occurring during Two Years' Service as Surgeon to the Glasgow Royal Infirmary. By* W. LYON, *late one of the Surgeons to the Infirmary, and Lecturer on Surgery in the Portland School.*

"Qu'on juge, si cette colonne était remplie avec exactitude, quels élémens précieux de statistique pour les maladies, tant internes qu'externes; pour de chances de salut et de mort après des grandes operations, pour les conditions de salubrité de tel ou tel hôpital, et dans châque hôpital, de telle ou telle salle."—MALGAIGNE.

It is a very general conviction among members of the medical profession, that physicians and surgeons who have held hospital appointments are called on, for the gratification, if not instruction of their brethren, or, it may be, as a duty they owe to their own character, to place the result of their hospital observations before the public, and thereby in so far to exonerate themselves from the responsibilities of their official situations. In reflecting with this view, on the cases which had been under my care as one of the surgeons to the Infirmary, my attention was in the first place attracted to the subject of fractures, by the large number of that species of injury treated in the hospital; a number much greater than that of any other branch of surgical practice, ulcers, the never-failing pests of every hospital, not excepted.

The period of my attendance as surgeon in the wards extended from 1st May, 1841, till same date, 1843, and during that time I treated 196 patients with fractures. In some of the cases, there existed more than one fracture in different members, and all are included in the above number, but of these there were only a few instances; so that nearly 200 patients were admitted under my charge with this species of injury, and when we add, in all probability as many under the care of my colleague, we have the large number of nearly 200 in the hospital yearly.

The great population of the city, the large number of persons engaged in manufactories where machinery is employed, and the circumstance that all the cases which occur are concentrated in one hospital, in place of being distributed in several, as in many other cities having a population approaching the extent of ours, are the general causes for the rich field our hospital affords for the observation of fractures. These causes are aided by the destitution of the working classes, to whom this description of injury is almost exclusively confined. The upper ranks enjoy an evident immunity from fractures; the middle do not suffer in much larger proportion than the upper; and the labouring portion of the community, among whom they are most frequent, not having accommodation for their proper treatment, being unable to support themselves during the requisite confinement, and pay their surgical attendants, are, when they suffer fractures, in nineteen of every twenty cases carried to the hospital, which if I reckon correctly, may therefore be said to receive nearly all the cases of fractures in the city, the immediate vicinity, and a considerable proportion of those from the surrounding country.

Although many of the fractures are the consequences of carelessness or recklessness, aided or occasioned by the unfortunate extent to which our labouring population is addicted to intemperance; still, as will be shown in the sequel, the main, and it is to be feared, inevitable sources of these injuries, are undoubtedly the numerous quarries, the frequent blasting of rócks, the operations of levelling, digging foundations and consequent falls of earth, the formation of railways and afterwards casualties upon them, erection of buildings, almost countless machines, and lastly, certainly not the least prolific sources, the numerous collieries around the city. If I have rightly concluded, that from having few *inducements to attend* to them, the general practitioner here, in the city *at least, has few* fractures to manage; it may be that the subject *has little interest* for him. Apart, however, from its general professional importance, he will occasionally require to treat them; and I therefore hope that the results of my experience will not be altogether unacceptable. I do not anticipate being able to adduce any new facts, nor will I be able I fear to point out any improved modes of treatment; my objects are to give the statistics, and to state any useful particulars deducible from the cases; to describe the casualties I have seen to arise during their progress; to detail the results of the ordinary modes of treatment, show the advantages possessed by some, and the objections which apply to others, and thus infer the methods which are most deserving of employment.

The following table will show the number of cases, the respective numbers of males and females, the numbers of the different kinds of fractures, and the results.

Sex.	Simp.	Comp.	Skll	Face.	L.Jaw	Spine	Plv.	Fem.	Tib.	Fib.	Foot.	Clav	Rib.	Stn.	S.p	Hume.	Rad	Uln	Hand	Cured	Dead	Ops
MALES, 163	128	41	4	1	4	3	3	35	51	45	4	8	10	0	4	22	14	10	3			
FEMALES, 33	30	3	1	0	0	0	0	6	6	8	0	3	1	0	2	3	3	2	0			
Total, 196	158	44	5	1	4	3	3	41	57	53	4	11	11	0	6	25	17	12	3	160	29	22

When the cases are arranged according to their numerical superiority, the following is the order in which they stand, and which should indicate the rate of frequency with which the respective fractures are met with in practice:

Number of patients,			196
Number of fractures,	simple,	158	
	compound,	44	
			202

There was more than one fracture in some of the 196 cases,

	Males.	Females.	Gross.
Fracture of Tibia,	51	6	57
" " fibula,	45	8	53
" " femur,	35	6	41
" " humerus,	22	3	25
" " radius,	14	3	17
" " ulna,	10	2	12
" " clavicle,	8	3	11
" " ribs,	10	1	11
" " scapula,	4	2	6
" " skull	4	1	5
" " lower jaw,	4	0	4
" " bones of foot,	4	0	4
" " bones of hand,	3	0	3
" " spine,	3	0	3
" " bones of face, sup. maxilla, ossa nasi,	1	0	1

I drew up tables, giving additional particulars to the above; but their insertion here would be inconvenient; and I shall therefore, in the following remarks, in general, merely give the results, without the details on which they are founded.

The first point for comment is the much larger number of males than females. This circumstance is partly to be accounted for by the smaller number of females employed in labour than males;

but probably in a greater degree, by the labour of females being less violent, and thus less hazardous than that of the other sex. Those points considered, the greater frequency of fracture in the one sex than the other, does not surprise us; but we would not have anticipated any peculiar discrepancy in respect to the ages of the sexes, in relation to fractures. On comparison, however, of the tables I have drawn up, they show a very considerable difference between the ages of the male and female patients; those of the females being on an average 41 years, 17 weeks, 2 days, and a fraction, while those of the males are only 30 years, 3 weeks, and 5 days.

AVERAGE AGES OF THE PATIENTS.

	Years.	Weeks.	Days.
Females,	41	17	2
Males,	30	3	5

We have seen that there were only 33 females to 166 males; but small as the former is to the latter number, there were more among them at very advanced ages.

The following shows the number of patients of both sexes, above 50 years:

	Females.	Males.	
50 to 60 years,	6	18	24
60 „ 70 „	2	7	8
70 „ 80 „	3	3	12
80 „ 90 „	1	0	4

But the relation of 166 to 33, being nearly as 1 to 5, had the average ages been proportionate to the respective numbers, the males would have stood as they are marked in the last column.

I do not know whether this result, the greater average age of females who suffer fractures, is to be accounted for by a greater proportion of females reaching old age than males; or because aged females being weaker than males, they are therefore more liable to, and more easily injured by falls, &c., or that the bones of the female are more friable or smaller than those of the other sex.

I am disposed to conclude, that each of these particulars, and possibly the form also of the female, some points of whose frame are more prominent and less protected by muscle than in the male, all conspire in producing the consequences which the tables elicit.

The tables likewise corroborate the generally known fact of the greater frequency of fractures through the neck of the femur in the female than the male; 5 of the 6 femur cases in the female being of that kind, while in the 35 male instances, there were only 2. The alteration in the constituents of bone in aged females, the greater length and less obliquity in them, of the neck of the femur to the shaft, as age advances; the greater prominence of the trochanter in the female, and her more general leanness, explain her greater liability to this species of fracture.[1]

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[1] Leçons Orales, Dupuytren, p. 86. tom. ii. Edit. 1832.

While the tables show that females are less liable to fractures than males, and that their fractures occur in larger proportion in advanced life, they likewise prove, that the females remain a shorter time in hospital, which is equivalent to stating they also recover more rapidly, for I am not conscious they were discharged with their limbs in a less perfect condition than those of the males.

I wish it to be understood, that in stating the periods of residence, it is not to be inferred any attempt was made, by dismissing patients early, to show superiority of treatment; and I doubt not any one who will study it, may be able to make the results as to residence appear much more favourable than mine. Whether, however, this will be effected without compromising the feelings and well-being of the patients, is more than questionable. Nor does the period of residence correctly indicate the time required for cure, by cure being meant, the time at which retentive measures can be dispensed with, and partial exercise taken, or in other words, when union and consolidation have been effected; for in many cases, as fractures of the clavicle, humerus, or bones of the fore-arm or leg, the patients were dismissed, or departed of their own accord, before union was completed; while in numerous instances, they remained long after the process had been finished, they not having homes, means of support, or being unable to work. The reasons for the shorter residence of the females are tolerably evident. We would, to be sure, have predicated that they, being on the average older than the males, their cases would have required longer time; but this (the greater age) is more than balanced by the fractures being less severe, seldomer accompanied with bruising, and fewer of them being compound. The compound fractures among the females were only 3, while in the males there were 41; whereas, had the proportion been in the ratio of the numbers, there would have been 12 among the females.

The difference as to residence is, however, very slight, that of the

	Weeks.	Days.	Hours.
Females being, .	3	5	17
Males, . .	4	8	4

The very decided less severity of the fractures, and the smaller number compound, would have led me to expect a more favourable contrast, in relation to residence, than that above stated.

As age is usually understood to have much influence on the time required for effecting union of fractures, it may be expected that the young should have been earlier dismissed than the middle-aged or the old. On a glance at my tables, I do not find this to have been the case. Reproduction of the soft parts being more rapid in youth than advanced life, would lead us to apply a similar rule in relation to bone, but neither in public nor private have the results at various ages been so markedly different, as to enable me positively to support or dissent from the popular, if not professional opinion, that youth much conduces to the rapidity of union in fractures.[1] More strongly affecting the period of residence than sex or age, is the simple, or compound nature of the fracture, and the size and situation of the bone injured.

Cases of fractured clavicle, scapula, humerus, or bones of the fore-arm, when uncomplicated, were often discharged within a week or two; many of them only remained until retentive measures were applied, were not entered in the journals, and were made *out* patients, presenting themselves occasionally; others, from peculiarity of symptoms, or from pecuniary circumstances of patients, were kept longer than above specified, but generally they were not long in the hospital. Contrasted with these, and evincing the influence of the size and situation of the fracture, I find that simple fractures of the femur in the male, of which there were 35, were on an average 6 weeks, 6 days, and a fraction, say 7 weeks in the hospital; and, considering the amount of reparation required, the difficulty of maintaining quietude and apposition, 7 weeks may be considered a short period for accomplishing a cure, or at least of attaining such condition as enabled the patient to take exercise, and leave the hospital. In the female, there were 6 simple fractures of the femur: two of them died. Collectively, the cases remained in the hospital 4 weeks, 6 days, and 12 hours each, being nearly 2 weeks each, a shorter time than the males.

	Weeks	Days.	Hours.
Thus, Males, . .	6	6	0
Females, . . .	4	6	12

This contrast in relation to the females, arises in part from the reverse of favourable, viz. 2 deaths which occurred, one on the 4th week, and the other on the 11th day; partly likewise from a case of fracture through the neck of the femur, having been discharged at the end of the 4th week, the symptoms being mild, and union not expected. Very different was the result in respect to *compound* fractures of the femur; there were only 5, and all of them in the male; and taken together, they were 12 weeks 6 days, or say 13 weeks in hospital. This is only 2 weeks and 4 days for each, a period much shorter than required for simple cases of the femur, and some surprise may be felt at the above apparently discrepant statement; but the result turns out widely different when it is known, that of the 5 compound femur cases, 4 suffered primary amputation, and all died very soon after the operation, so that the remaining one of the 5 who recovered was in the hospital 12 weeks, occupying nearly the entire time given for the whole 5 compound cases.

	Weeks.	Days.
Simple fractures of femur, ...	6	6
Compound, ...	12	0

There was another case which was not entered as compound, because at admission it was dubious whether it was so; but it became compound, and the patient, after being in 12 weeks, was strongly urged to submit to amputation, but left with the bone ununited, and soon afterwards died.

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[1] This is in opposition to the opinion of Dupuytren, Leçons Orales, tom. ii. p. 88.

The tibia, or at least the tibia and fibula, reckoned as one, are, I think, greater in diameter than the femur, so that the union of the former requires a greater amount of reparation than the latter, and is not, I believe, earlier completed. Fracture of the bones of the leg are, however, far more manageable than those of the femur, particularly since the introduction of the starched bandage, by the use of which patients are rendered capable of leaving their beds very early after reception of the injury, and, in the cases referred to, frequently left the hospital in 3 weeks, and some of them in 2 weeks after admission. This is, however, almost entirely attributable to the employment of the starched bandage, and but for it, fractures of the tibia and fibula will require equally long confinement as those of the femur; for the limb is incapable of supporting the body without injury any earlier in the one than the other.

The number of simple fractures of the bones of the leg, reckoning indiscriminately one or both bones, was 33, and they were in the hospital, on an average, 4 weeks 5 days each. In the female there were 7, and they were a fraction within 4 weeks each.

BONES OF THE LEG.

	Weeks.	Days.	Hours.
33 Males,	4	5	0
7 Females,	4	0	0

There were 25 of the cases among the males, in which both bones were simply fractured, and they remained 4 weeks 6 days 6 hours each. There were 9, with the tibia alone fractured, and they were in the hospital each 2 days shorter than those with both bones; while with the fibula alone, there were also 9, and they remained a shorter time still, viz. 2 weeks and 6 days. Thus:—

	Cases.	Weeks.	Days.	Hours.
Both bones,	25	4	6	6
Tibia,	9	4	4 and a fraction.	
Fibula,	9	2	6	0

Showing a progressive decrease of time required for cure, proportional to the extent of osseous surface involved, and dependent, in some measure too, when one bone only was fractured, on the sound one preventing the weight of the body from falling on the fractured one, and thus enabling the patient to use the limb earlier. When we take the individual averages in the same manner in the female, the following are the results:—

	Weeks.	Days.	Hours.
Both bones,	3	6	6
Tibia,	4	0	0
Fibula,	2	3	0

On this point there is a slight, though still decided difference, in favour of the females, whether arising from the injuries being less severe, or from the influence of that general law, in virtue of which females bear operations, suffer the effects of injuries, and recover from many diseases, in larger proportion than males, it is not easy to decide.

As between simple and compound fractures of the femur, so between simple and compound fractures of the bones of the leg, we shall find a considerable difference as to period of residence. Of compound fractures of the bones of the leg in the male, there were 18. Some of them were of both bones, some of tibia only, and others of fibula alone. The amount of injury varied greatly: in many the bone or bones had merely punctured the skin; in others there were various degrees of muscular and cutaneous laceration; and in a third and large class, injury to soft parts, from bruising and laceration, and to bones by comminution, was so severe and extensive, as to have caused them to be known in hospital language, and entered in the journals, under the appropriate, if not scientific, designation, of "smashed legs;" and I suspect it may admit of question, whether I act correctly in treating of them under the present subject.

Several of them were complicated with other and great injuries; 1, where the other leg was cut off by the same violence which caused the fracture, while the fracture was so severe, and so near the knee, as to necessitate amputation in the thigh; 1, with opened knee, also occasioning amputation in thigh; and 2, with compound fractures of *both* legs.

If we reckon the 18 cases, we shall find that on an average they remained a very short time in hospital. But of the 18, 8 suffered primary or very early secondary amputation; 2 died very early in the attempt to save without operation, and the remaining 8 are those we have to calculate on, for the purpose of showing the time required for such approach to a cure, as enabled the patients to leave the hospital, which, one with another, they did in 6 weeks, 2 days, and 6 hours, from date of admission.

	Weeks.	Days.	Hours.
Simple fractures of bones of leg, . .	4	5	0
Compound " " . . .	6	2	6

This is 2 weeks, and a little more each, additional to the time required for simple cases, while the simple left in much better condition than the compound ones; the compound were often suppurating; the union in others was not completely osseous, and all of them were less advanced than the simple cases. I do not suppose it would prove generally interesting to pursue similar contrasts, in relation to other fractures, and shall proceed to show the frequency with which fractures are met with at various ages, in so far as can be inferred from the cases which occurred to me.

TABLE, showing the AGES, arranged in periods of Five Years each.

	Males.	Females.
1 year to 5	1	0
5 „ 10	12	1
10 „ 15	14	2
15 „ 20	10	0
20 „ 25	27	1
25 „ 30	19	6
30 „ 35	21	3
35 „ 40	17	0
40 „ 45	8	3
45 „ 50	6	1
50 „ 55	10	3
55 „ 60	8	2
60 „ 65	3	2
65 „ 70	4	1
70 „ 75	2	3
75 „ 80	1	0
80 „ 85	0	1
	163	29
	29	
	192	

Ages of 4 not marked.

In the above table, I have classified the patients according to their ages, making as close approximation to accuracy as easily practicable, by arranging them in periods, each increasing by five years, as will be seen in the table. This ought to show the frequency with which fractures are met with at the various ages noted; but will not point out whether the frequency, or contrary, is dependant upon the greater or less proportion of individuals among the population, at the respective period in the tables, or their liability to fractures, by greater or less exposure to violence, less capability of resisting it, or both, at certain ages. For to enable us to infer the proportions, according to the numbers of the population, in respect to the period taken, we would, of course, require to know the numbers of the population at each period of age, which I have not at present the opportunity of doing.

It will be observed, that in the period from birth to 5 years, there was only 1 male patient among the 163 admitted. This small number is surely not attributable to the small proportion of ages at that period of life; and is rather to be accounted for by the less exposure of very young children to violence, their bones being better protected by soft parts, by their osseous structure being less friable; and from one or more of those causes, fewer fractures occurring at that early age, than later in life. Another reason for the small number may be, that when fractures do occur at that early age, patients are not so generally carried to the hospital. As might have been expected from the activity and fearlessness of boyhood and youth, and exposure consequent upon labour, it will be seen from the table, that with a trivial exception, between the ages of 15 and 20, the cases gradually increase in frequency, until they reach their maximum between 20 and 25, in which period there are 27; and from 25, they decline with almost perfect regularity, until from 75 to 80 years, at which period there is only one case out of the 163. Between 25 and 30, there is a very large reduction in the number; which, if not occasioned by a great increase of mortality, rapidly diminishing the number of the population at that age, may be explained by the greater care and prudence, characterizing the time of life at which the mind has attained perfect maturity.

There is again, a trivial increase from 30 to 35, (probably accidental,) in my table, and which would disappear in a greater number of cases. The numbers, then, pretty regularly diminish as the age increases; at some ages, however, by more rapid progression than others, a result compounded of influences, arising from fewer individuals existing at every successive period, and they from timidity, caution, or growing weakness, being less and less exposed to the ordinary causes of fractures, and thus more than counterbalancing the more easy production of these injuries at advanced periods of life. I have arranged the female ages in a similar manner, and it will be observed that the maximum frequency is a period later than in the males, and that the numbers, unlike those in the males, rather increase as age advances.

Whether these results arise from a greater proportion of females among the population as age increases, or from their greater liability to fracture, I shall not attempt to decide, although I think it probable the result is attributable to a combination of these causes.

TABLE OF THE RELATIVE FREQUENCY OF FRACTURES ON THE RIGHT AND LEFT SIDES OF THE BODY AND EXTREMITIES.

		Right side.	Left side.	Not noted.	
Number of Males	163	79	74	10	163
... Females....	48	10	22.	1	33
		89	96	11	196

I do not see how it can have any practical bearing, to determine the relative frequency with which fractures occur on the right or left sides of the body or extremities. The point having, however, been deemed of sufficient interest by writers on this subject[1] to deserve inquiry, I proceed to state the results which the table of my cases shows.

If the question were propounded, and we were to decide by speculation in place of facts, it might be argued, that, as the right superior extremities are involuntarily called into action in any emergencies where celerity and strength are required, in falls, in warding off weights or blows, in being engaged with machinery and otherwise, as fractures are oftenest received, they would consequently oftenest suffer. The table, however, would not support the reasoning; to take the males only, it might to a very trifling extent, there being 79 of the right and 74 of the left side, the remaining 10 of the whole number 163 not being noted in the journals. But this slight preference of the right is completely reversed in the females, among whom there are only 10 of the right and 22 of the left side. I cannot imagine any reason to account for the difference on this point in the sexes, and suspect it arises from the number of females being too small to afford a general rule; and it will be seen, that by adding the male and female cases together, we obtain a result more nearly approaching that shown by the males only, and nearly equalizing the number of fractures on the right and left sides of the body and extremities.

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[1] Etudes Statisques sur les Fractures et les Luxations, par Malgaigne, Annales d'Hygiène Publique, tome xxii. is a book which contains more on the statistics of fractures than any other I have been able to obtain. He drew his inferences from a far greater number of cases than I have done; nevertheless, the results of my 196 instances correspond in all important particulars with his more extended observations. He has alluded to some points I have not entered into, and, again, this paper contains details not to be found in his observations.

I have already stated generally, the sources of the numerous fractures treated in the hospital. The following list gives the details.

By falls from heights, down stairs, &c.	51
„ off feet,	45
„ of stones, wood, iron, &c.,	27
„ machinery,	11
„ passage of cart wheels,	10
„ blows, on doors, on stones, and by sticks,	8
„ pressure, or strokes of railway waggons and wheels,	7
„ kicks from horses,	7
„ falls of earth,	4
„ pressure by carts,	4
„ falls down coal pits,	3
„ blasting rocks,	2
„ gunshots,	2
„ pressure by boats,	2
„ leaping,	2
„ fall from a horse,	1
„ bight of a rope under strain,	1
„ explosion of steam from boiler,	1
„ explosion of gunpowder in flask,	1
„ attempt to reduce dislocation,	1
	190
Errors and non-insertions	6
	196
Entrances of above in journals as intoxicated at occurrence of accident or admission	14

It will be observed, that the greatest numbers of cases are supplied by falls, there being 51 by falls from heights, and 45 by the persons simply slipping or overbalancing. In both modes, some would be caused by a direct stroke in alighting, some indirectly by the violence or unfavourable direction of the impetus, and others, though only a small proportion, by muscular action alone in the attempt to avoid or modify the fall.

A large proportion of those composing the 51, received the injuries while they were engaged in their respective occupations, and even among the 45, who merely fell "off their feet," many were at the time of the accident employed in labour. The third in frequency of the causes, are those from falls of stone in the shafts, and from the roof of coal pits; of stones in quarries; of stone and wood from buildings, &c., and several were from falls of iron, while it was being carried into vessels at the harbour. While some of the cases which form the three first classes in the list, are probably referable to the want of precaution, arising from most culpable parsimony on the part of employers, many are nearly inseparable from the kinds of labour at which they occurred, and are only to be obviated by the sobriety, care, and prudence, of the workmen themselves. The number 11, from machinery, is not so large as might have been expected, but what they wanted in number was made up in severity, many of the worst cases in that list being supplied from this class.

There are only 10 cases from the passage of wheels over limbs, and when our crowded thoroughfares are considered, with the entire absence of proper police regulations as to riding or driving, there is certainly room for surprise that fractures from these sources are not of tenfold greater frequency. There were only seven received on railways; and when the number and extent of those in the vicinity, for conveyance of minerals and passengers are reckoned, the few cases of fractures they supply, are alike creditable to those by whom the railways are superintended, as to the prudence and sobriety of those who travel or labour with them. We have next seven cases by bites from horses, and the numbers from the causes specified in the list gradually diminish, until the four last sources only supply one instance each. The two gunshot cases were occasioned by carelessness in using fire-arms, and were both fatal. Particulars of the case produced by the attempt to reduce a dislocation, will be afterwards given. Whether the order of causes by which fractures are usually occasioned, is similar in other places to that above given, I have not had an opportunity of ascertaining; I would expect it to vary, being modified by the description and extent of labour peculiar to each locality.

There are only 14 instances in which there are reports stating that the patients were intoxicated at the time of admission, or when the accident occurred. A considerable time often elapsed between the occurrence of the injury and the admission, so that intoxication, if it existed, must have often passed off; and I have no doubt, that immediately or remotely, that state formed a much more important item in the list of sources than is indicated by the journal.

The following list contains the employment of the patients, arranged according to numerical superiority.

Labourers, including quarriers,	48	Brought forward,	129
Colliers,	12	Reed-maker,	1
Carters,	9	Vagrant,	1
Masons,	8	Miller,	1
Mill-workers,	6	Calenderer,	1
Sailors,	5	Engine-keeper,	1
Founders and Moulders,	4	Fireman,	1
Shoemakers,	4	Heckler,	1
Weavers,	3	Soda-water manufacturer,	1
Watchmen,	3	Tinsmith,	1
Hawkers,	3	Sweep,	1
Bakers,	3	Boat-builder,	1
Clerks,	2	Coach-driver,	1
Porters,	2	Charrer,	1
Joiners,	2	Foreman,	1
Sawyers,	2	Shopman,	1
Tailors,	2	Potter,	1
Blacksmiths,	2	Servants, fem.	6
Boiler makers,	2	Sewer,	1
Cloth-lappers,	1	Yarn winders,	3
Cooper,	1	Nurse,	1
Farmer,	1	Laundresses,	3
Farm servant,	1	Fringer,	1
Groom,	1	Employment not entered,	22
Dyer,	1	Under working age,	13
Currier,	1	Errors and omissions,	4
Carry forward,	129		196

Number of fractures which occurred in the months of March, April, May, June,	69
July, August, September, October,	62
November, December, January, February,	55
Omssions and errors, from more than one fracture in some cases,	10

The labourers, a class, the members of which are variously employed, bear an unanticipated heavy proportion to the other descriptions of workmen on the list; their large number, in relation to population; their violent exertions; their liability to falls in buildings and quarries, &c.; and their exposure to be injured by the descent of stones, wood, &c., while they are at work, are the reasons why this hard-tasked, inadequately remunerated, and poor class of men, are so often the subjects of fracture, a kind of injury generally for a long time disabling them from returning to their occupations.

Next in succession, but only a fourth in number to the labourers, we have the colliers, a body of men peculiarly exposed to injuries of a severe character. I do not think the table shows the frequency with which fractures are met with among the colliers in the vicinity of the city; for, from the distance of many of the colliers from the city, and consequent difficulty of conveying the patients without additional injury; from the aversion of this class to be carried to an hospital, and also from the familiarity of surgeons practising at collieries with the management of fractures, a smaller proportion of the cases are conveyed to hospital, than among other workmen where such accidents occur in equal numbers.

I regret to state, that the difficulty of conveying patients without additional injury, does not always seem to be recollected or acted on; I have seen them with severe simple and compound fractures, and extensively scalded besides, insufficiently protected from inclement weather, cold, collapsed, and their sufferings greatly increased by the motion, who had been jolted for many miles during several hours over bad roads; the cruelty of such treatment, and its disastrous effects, in augmenting the shock arising from a bad compound fracture, with the sacrifice of the only time during which an evidently demanded amputation could be safely performed, are easily conceived; and surely the conduct of those surgeons is most deeply reprehensible, who, from ignorance, or it may be the selfish motive to rid themselves of an expensive and annoying case, recommend, or countenance such proceedings.

Next in order are the carters, of whom there are nine, then eight masons, and successively six mill-workers, five sailors, and four founders and moulders, when we arrive at the shoemakers, of whom there are also four. With exception of the latter class, we can trace some connection between the occurrence of fracture and the employments, but if the number of shoemakers in our list accurately shows the relative frequency of fracture among them and other workmen, some other element than danger during employment must come into play; such as the large number of this class among the population, the prevalence of intemperance among them, or want of vigour from their sedentary occupation and constrained posture while at work.

Referring to the list, it will be observed, that as it descends there is no similarity as to risk of fracture in connection with occupation between many of the classes with others; as weavers with watchmen, tailors and clerks, porters and joiners, and such like; and as to the weavers and tailors, at least, both of whom are notoriously intemperate, and who are, partly from that vice, and more from the effects of their occupations, a debilitated class, is their superiority in this respect best to be accounted for. I will not pursue the contrast further, but refer to the list, as I fear it will be thought the matters are more curious than useful.

There is a prevalent opinion, that from the benumbing effect of cold, especially on the old, from the hardness of the ground during frost, and from the slipperiness occasioned by ice, and consequent frequency and severity of falls, fractures are more numerous during winter than other seasons. This opinion has been disproved by M. Malgaigne and others, and my tables corroborate their statements. To make this point evident, I have divided the year into three periods, and have affixed the number of fractures occurring during each, viz.,

	Cases.
March, April, May, June,	69
July, August, September, October,	63
November, December, January, February,	55
Omissions,	10
	197

It is only during the months in the latter period that we have any considerable frost; during one at least of the winters of my service in the hospital, there was above an average amount of frosty weather, and yet, as will be seen by the numbers attached to each of the periods of months as above, there were fewer cases admitted during the four last, or those of winter, than during either of the other two. Whether this unexpected result arises from a greater number of labourers being in employment during the temperate and summer months, I can only surmise. Whether the same result holds good in relation to particular ages, as well as in the mass, I have not enquired. We would still expect, that a greater number would be received during those winter months when there was frost, than during those when there was not, but examination on this point would require a register of the weather at the time, which I do not possess.

Mortality of Fractures.—I proceed to show the amount of mortality among the cases treated of in this paper.

The number of fractures was	196
The number of deaths	29
Recoveries	165

This is nearly at the rate of 14 per cent., which as a whole, is very heavy; but from the succeeding statement, it will appear, that the rates are greatly modified according to the species of fracture and the ages of the patients, and that, in so far as simple fractures are concerned, they are not to be viewed as attended with much risk to life.

Number of cases,			196
Of these, compound,			44
Leaving of simple fracture,			152
Died of simple fracture of	Femur,	3	
„ „	Spine,	3	
„ „	Skull,	1	
„ „	Ribs,	2	
„ „	Pelvis,	1	
Sarcomatous deposition at fractured part, death from peritonitis,	Tibia,	1	
Complicated with injury of head and ex. on brain,	Clavicle	1	
			12
			140

We have thus twelve deaths in 152 simple cases, or within a mere fraction of nine per cent. We remark, that of the twelve deaths, there were of the skull, trunk, or pelvis, seven; that the one of the clavicle proved fatal from complication with injury to the brain, and that the one of the tibia died from a cause totally unconnected with the fracture, so that deducting those nine from 152, there only remain three deaths from 143 cases, or not quite two per cent. of deaths in simple fractures of the extremities.

Of the three deaths from simple fractures of the extremities, there was one of the femur, in a man seventy-seven years of age, who died six weeks after the accident from the exhaustion and irritation of a bed sore; one through the trochanter major in a female who sunk at the end of the fourth week from the combined effects of an old diarrhœa and a bed sore; and a third case in a female seventy years of age, likewise through the trochanter major, who gave way after twelve days' treatment, also from the effects of pressure.

Although to the young or middle-aged, fractures do not often occasion death, our cases would show that they are not free from danger to limbs; one boy requiring amputation at the shoulder-joint, and another in the thigh, from causes which will be specified in the details of the treatment. The important organs which the cranium, spine, ribs, and pelvis contain, and the injury which their contents are so prone primarily or secondarily to suffer in fractures of those bones, especially the cranium and spine, sufficiently explain the causes of the great danger of such cases, as shown by the deaths in all the simple fractures, namely seven, of those kinds contained in the list.

Even what are usually called, though I am not certain if quite accurately, simple fractures of the ribs, for the pleura is generally, and the lungs or other pectoral organs are often wounded, are far, it would appear, from being free of risk to life. Two out of eleven, the whole number, died; and it is only a short time since I saw an instance in private, where death took place seemingly from the irritation caused by the extremities of the broken rib rubbing on the diaphragm. A state of collapse existed from nearly the moment of injury until the occurrence of death two days after, and there were not inflammatory appearances found sufficient to refer the result to that action.

It now only remains for us to consider the rate of mortality as respects compound fractures, in which we will find a striking contrast to the results of simple cases.

	Of extremities.	Deaths.	Operations.
Compound fractures, .	41	14	18
„ „ skull, .	3	3	2
	44	17	20

We have thus almost a half, at any rate a mortality of forty per cent., that of simple being two per cent.; and whereas two limbs were lost in the simple cases, we have nine amputations among the seventeen who died, and including the amputations in the hand and foot, some of which were only partial, there were also eleven among the survivors. The results in the two species of fractures will, therefore, stand thus:—

		Deaths.	Amputations.
Simple Fractures,	152	12	2.
Compound do.,	44	17	18.

(To be continued.)

ARTICLE IV.—*Case of Transposition of the Aorta, and Pulmonary Artery, with remarks on the causes of communication between the two sides of the Heart.* By T. WILKINSON KING, *Lecturer on Pathology at Guy's Hospital.*

A patient of Mr W. Sanders of Gravesend, a child two years and nine months old, with blue lips and nails, and some discoloration of the face and skin generally, had grown pretty well in length, and cut its teeth well, but never walked, and was always emaciated and suffering. It died suddenly. It seems probable there was some dyspnœa, with constant uneasiness, and disturbed rest from birth. The following is an account of the heart of this child.

Aorta and pulmonary artery transposed—a clot in the ventricle obstructing the aorta—perforated septum of auricles and ventricles.[1]— The superior cava is natural; the inferior large, with a broad Eustachian valve.

The right auricle is dilated and hypertrophic, and the fossa ovalis large and cribriform, having apertures equal to a passage of the size of a common black-lead pencil; and more, under extension. The tricuspid valve is clear, well-shaped, and sufficient. The ventricle is large, and strong, containing a solid clot fully as large as a pigeon's egg, irregular, lamellar, and softer within. The aorta gave off two large coronary arteries; its valves were good, as well as its form, size, and thickness, and the three branches of the arch; it received the ductus arteriosus, now quite closed, and beyond this it appeared decidedly rather small. The left auricle, of moderate size, received onlytwo veins, so far as I can see. The foramen ovale is devoid of all valvular apparatus. (Perhaps the pressure was habitually into the right auricle.) The tricuspid valve is natural, the ventricle comparatively small, but strong for a pulmonary circulation. Beneath the root of the pulmonary artery is an aperture larger than a crow-quill, (opening into the right ventricle, beneath its fixed curtain,) half surrounded by folds of the lining membrane, like two imperfect semilunar valves. These could hardly admit a current from left to right; and again, the aortic ventricle was surely the most powerful.

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[1] The specimen is marked No. 1392^{45} in Guy's Hospital Museum.

The pulmonary artery was very wide; its valves seemed good, but scanty. The left branch was of large size, but the right was much larger. It is not impossible that it may have given some descending aorta. I conclude, that some red blood passed into the right auricle by the foramen ovale, and some black blood from the right to the left ventricle.

Dr Walshe, the learned Pathological Professor of University College, (*Med. Ch. Tr.*, vol. 25,) refers to six recorded cases of transposition, in which life was sustained for different periods under five months. In the case related by himself, the subject lived ten months; and here, the open ductus arteriosus was the means of communication between the ventricles. It seemed pretty certain, that in Dr Walshe's case, the pressure of blood was from the right auricle to the left, and from the pulmonary artery through the ductus arteriosus. I entertain some doubt as to this last conclusion, and admit as much with respect to my inference of the course of admixture in my own case. Dr Walshe thought the ventricles and their valves were transposed, but some of his statements induce me to distrust this supposition.

Dr Craigie, the able editor of the *Edin. Med. and Surg. Journal* remarks, " It would lead to some curious and interesting results to enquire, by what means the impeded function of the lungs is in these cases compensated; for that it is compensated by the action of the skin and other membranes can scarcely be doubted." The chief compensation that I see any just ground to dwell on, relates to the possibility of a fuller aeration of a smaller quantity of excessively carbonized blood, which after a complete depuration may almost require a dilution with venous blood, as occurs before circulation.

The practical point with respect to cyanosis generally is, that extreme external warmth is the grand remedy for all the *variable* disorders, though, of course, the fixed disorganization remains. This I have before endeavoured to enforce. It shows, at least, that the freedom of the functions generally relieves both the heart and lungs—the first physically, and the second humorally.

With respect to all the various causes of communication, I have formerly shown, that undue accumulation of blood in either auricle, or either ventricle, is the necessary agent to obstruct the closing up of the peculiar passages of ante-natal life, and of determining the course of admixtures. The following seem to be the whole of Dr Craigie's conclusions, (*Edin. Med. and Surg. Journal*, Oct. 1843,) and I think it will appear, that my earlier account is not less conclusive, and somewhat more accurate and extensive.

"I have been led to think that some degree or form of contraction or arctation of the pulmonary is not only the first, but the most essential lesion; and that the open state of the foramen of Betallus, or the perforation of the ventricle are to be regarded as dependent on this contraction, and, in a great measure, determined by this contraction having previously taken place to a degree so great, as to render the free and natural circulation through the pulmonary artery impracticable."

"From the phenomena of the cases recorded, on the contrary, and from the frequency of the arctated or contracted state of the pulmonary artery, it must be inferred, that the obstructed state of that artery is the primary lesion, and determines not only the open state of the *foramen ovale*, but the hypertrophy of the right ventricle. This is the result, whether the pulmonary artery is only greatly narrowed in calibre, or terminates in a *cul de sac*, or is obstructed by a membranous partition formed by the coalition of the semilunar valves."

"The effect of such an impediment is manifest. The blood cannot pass into the pulmonary artery with the requisite freedom and facility. The result is over-distension, *first*, of the right ventricle and excessive labour of its muscular apparatus; *secondly*, of the right auricle and excessive labour of its muscular apparatus, with extreme dilation of its membranous portion; *thirdly*, over-distension and congestion of the whole venous system all over the body.

"The lungs, meanwhile, receive little or no blood, and, consequently, the blood is not duly aerated or supplied with oxygen and cleared of carbon and carbonic acid."

For my own opinions, it may suffice to refer to "An Account of some cases of Unnatural Narrowness of the Aorta, and of the consequences of this malformation; with observations on the causes which produce the communications between the two sides of the heart." (Two papers in the *Med. Gaz.*, Jan. 1841.) See also my views of the "Influence of the Left Bronchus in closing the Ductus Arteriosus at birth, and some corelative circumstances in Pathology and Comparative Anatomy." (*Med. Gaz.*, July 1840.) And, again, "On the Open State of the Ductus Arteriosus after birth, with cases and remarks." (LOND. AND EDIN. MONTHLY JOURN. OF SCIENCE, July, 1842.)

I cannot complain of having been overlooked by one who must have too much to do to look over all the contributions which a medical journalist meets with; and I would hope, that it is not cause for complaint, that I have ventured to advert to opinions which form but a small part of the general views I have endeavoured to establish relative to the circulation in health and disease.

ARTICLE V.—*Case of Perforation of the Ileum, from Ulcerative Action commencing in the Peritoneum.* By ALEXANDER MAXWELL ADAMS, M.D., *Member of the Faculty of Physicians and Surgeons, Glasgow.*

The following case of perforation of the ileum, resulting from ulceration commencing in its serous investment, and the accompanying observations, possess, in my opinion, sufficient interest to justify me in requesting a place for them in THE MONTHLY JOURNAL; for they tend, I think, to the elucidation of a question in pathology, regarding which there still exists some contrariety of opinion.

Ulceration of a serous membrane is unquestionably a rare occurrence, yet I cannot think that it is so very rare as to justify the almost total silence of medical authors regarding it. Some pathologists go so far as to deny positively the existence of such a primary lesion, while others give a negative support to this opinion, by denying that they had ever witnessed the accident, even under circumstances the most favourable for the study of morbid phenomena.

Before proceeding to detail the particulars of the case which forms the basis of this communication, it will be necessary for me to refer in a cursory manner to the causes of perforations in general, in order that I may render my deductions from the case in question more intelligible. I may premise, however, that my observations will be limited to what are termed by the French, "spontaneous perforations," or such as take place without any known determining physical cause, in contradistinction to such as are the consequence of violence, wounds, or the action of caustic poisons. There have been other causes of perforations observed and commented on by pathologists, but I deem it irrelevant to particularize them, as it is not my present object to produce elaborate details. Spontaneous perforations, then, are most commonly the result, *first*, Of ulceration of the mucous intestinal tunic, extending to the serous; *secondly*, Of morbid softening occurring in the same order; *thirdly*, Of rupture from over-distension, as happens in the gall and urinary bladders, and in the gravid uterus, when some impediment is opposed to the free expulsion of their contents; *fourthly*, Of the contents of an hepatic abscess, aneurismal sac, or encysted ovary, forcing their way through the serous membrane; *fifthly*, Of the deposition of tubercular matter in the subserous cellular tissue of the intestine, giving rise first to perforation of the muscular and mucous tissues, before affecting the peritoneal; and, *lastly*, Of ulceration commencing in the serous coat, and extending gradually through the others into the cavity of the intestine, as the succeeding case will prove. Cases illustrative of all the causes enumerated are on record; but I will confine myself to a few remarks upon such as are calculated to throw light upon the pathology, and prove the existence of the last mentioned.

Perforations, generally speaking, are confined to the lower part of the ileum, and to the stomach; the recorded cases showing that they may occur in other parts, are so few, that they may safely be considered as forming exceptions to a general rule. Louis, I believe, has the credit of calling the attention of the profession in a particular manner to perforations occurring in the former situation, viz. in the lower portion of the ileum. He has remarked its frequent occurrence, as a sequel to continued fever and phthisis pulmonalis, and has also stated, that the muciparous glands are the parts first affected with ulcerative action. He states, that the difficulty of diagnosing the period of the first formation of the ulcers, is great, but thinks he is not far from the truth in supposing, that it coincides with the first symptoms of the disease, from which it would result, that the progress of these ulcerations is very rapid, and that they arrive at their last period in from twelve to twenty-five days, rarely later. As regards perforations of the stomach, Abercrombie Stokes, Andral, and a vast host of other authors have put on record cases in which death occurred from this cause; but in all of these, the first link in the chain of diseased action was situated in the mucous or cellular tissues, and never in the serous. In many of them, a long train of dyspeptic symptoms would seem to have indicated the existence of organic disease for a considerable time prior to the consecutive peritoneal ulceration which led to the fatal issue; but in one of them related by Dr Abercrombie, the pre-existence of ulcerations was revealed by no symptoms antecedent to those indicating the entire perforation.

Although the cases related by these authors, together with a remarkable one mentioned by Professor Sebastian, in which a dependent pouch of peritoneum filled with pus was found on a portion of intestine, where the rest of the tunics were ulcerated, go to prove the resistance offered by the serous membrane to ulcerative action, yet that that action does occur, even primarily, in this tissue, will be proved by what follows. Scouteten, who has described more accurately perhaps than any other author, the morbid anatomy of the peritoneum, mentions, that he has often seen in it several small ulcerated lines, and sometimes also tolerably large superficial ulcerations; he instances one case, in which the serous membrane covering the diaphragm, was ulcerated to the extent of at least two inches in diameter. He also says, without giving any case in support of the statement, that these ulcerations may extend in depth, until the whole peritoneum, and even the subjacent membranes be destroyed. Portal, Bonet, and Paw, have met with similar ulcers covered with pus. Willan, in a small work entitled *The Diseases of London*, relates a case of peritoneal inflammation, which had been neglected for ten days, and which terminated fatally. On a *post-mortem* examination of the parts affected, a large quantity of pus was found effused into the abdominal cavity; the bowels were glued together by a thick inflammatory exudation, and the surface of the colon was superficially *ulcerated* in several places. I may likewise mention, that that very accurate observer and profound pathologist, Dr Stokes of Dublin, has in one of the numbers of the *Dublin Medical Journal*, related an interesting example of ulceration of the pleura pulmonalis, which, although not the serous membrane at present engaging my attention, from being identical in structure, must have similar pathological relations. Dr Stokes, when exhibiting the preparation upon which his remarks were founded, to the Pathological Society of Dublin, said, that "he considered the case as one of great interest, for though it was one of pulmonary consumption, the process of destruction had evidently commenced in the serous membrane, proceeding from without inwards,—a fact of which he invited any gentleman to satisfy himself, by an inspection of the preparation." My friend Mr Douglas, lecturer on anatomy, has in his museum a portion of the ileum, the peritoneum covering which is ulcerated to a considerable extent in several places; in some parts the ulceration has exposed merely the longitudinal muscular fibres of the intestine; in others, it has extended as far as the circular, and to all appearance, had the patient lived a little longer, it would have eaten its way into the cavity of the bowel. In the right iliac region, where this ulcerated piece of intestine was found, the bowels were glued together from inflammatory exudation, and purulent matter was found in the interstices between the convolutions. The ulcerated appearances seen could in no respect be attributable to the accidental tearing asunder of adhering portions of intestine, as the inspection of the body was made by Mr Douglas himself, who is a most careful and accurate pathologist.

My amount of reading and inquiry have made me acquainted with only one case in which ulceration of the peritoneum appeared to proceed to the complete destruction and ultimate perforation of the entire intestinal tunics. The case I allude to is related by Broussais. The patient, a fusileer, aged 22, was admitted into the hospital, in consequence of an injured foot; and whilst there, he was found to be labouring under some very obscure symptoms of chronic peritonitis, which became much more prominent fifteen days before his death; in fact, the abdominal pain at that time became so acute, as to render the weight even of the bed-clothes insupportable; there was a considerable degree of fever; and all the excretions had a stercoraceous odour. At the *post-mortem* examination, independent of the general appearances of peritoneal inflammation observable, a cribriform perforation was found extending through all the coats of one portion of the intestine. With this exception, the mucous membrane was *sound throughout*.

I now come to the main feature of this communication, which is the following case, of the whole progress of which, I was an eye-witness;—and to which, the preceding very desultory remarks have formed the preface. William Mitchell, aged 54, of tolerably robust habit, represented as being temperate, and as enjoying the best of health up to May 28, 1840. At ten o'clock A.M. of that date, I was hurriedly sent for; and found him affected with all the symptoms of strangulated hernia; his scrotum was filled on both sides with intestine; the left protrusion was irreducible; the taxis was successfully resorted to, and the urgent symptoms became almost immediately relieved. At the time of my visit next day, he complained much of pain in the left iliac region, which abated considerably on the application of a few leeches, followed up by warm fomentations. I heard no more of my patient from this date till Saturday the 13th of June, and at ten P.M. on the evening of that day, I was again hastily summoned. I learned, that he had enjoyed good health from the time of my last visit, thirteen days before, up to half an hour prior to the present one; that, however, the tenderness then complained of in the left iliac region had never entirely subsided, and was sufficiently acute to prevent his wearing other than his old bag truss. I also learned, that he had been unable to reduce, as formerly, the entire hernial protrusion, but that this circumstance caused him no uneasiness, and that his bowels were easily enough regulated; that indeed he had had a free evacuation that same evening. I was moreover informed, that about half an hour before my visit, he had, whilst indulging himself in the company of some friends, been suddenly seized with a violent pain in the left iliac region, accompanied with an extreme sense of weakness, followed by sickness and violent retching. At the time of my visit the pain had become more diffused over the lower part of the abdomen, which was painful to the touch; the inferior portion of the abdominal muscles were so contracted, as to feel literally as hard as a board; the expression of countenance was exceedingly anxious, and the features greatly altered in appearance; the whole surface of the body was cold, and covered with so profuse a perspiration, that the patient resembled an individual just emerging from a cold bath; the pulse was 120, small, and thready; the sickness and vomiting still continued. With respect to the two herniæ, they were both protruding considerably, but could be returned with tolerable facility, with the exception of a doughy mass, which was felt in the left hernial sac, even after it was emptied of the greater portion of its contents. From the large size of the abdominal aperture, from the ease with which the greater portion of the hernia could be reduced, and from the statement of the patient, that it had never been more so since the date of my last visit, I was satisfied that there was no strangulation of intestine to account for the symptoms then present. I accordingly diagnosed peritonitis from perforation of intestine. I was farther of opinion, that the doughy substance felt in the left hernial sac was a portion of omentum which had contracted adhesions. The remedial measures were turpentine embrocations to the abdomen, and the administration, every third hour, of a pill, containing three grains of calomel and one of opium. At ten o'clock next morning, the patient's appearance was so highly satisfactory, that I began to doubt the correctness of my previously expressed opinion. I found that he had slept a little during the night; the expression of his countenance was improved; there was less abdominal tenderness; the surface of the body was warmer, and the pulse was somewhat fuller and less frequent; his bowels were still, however, unopened, and his efforts at micturition were frequent, unsatisfactory, and accompanied with excessive pain. The calomel and opium, with the turpentine embrocations, were continued, and the catheter was used for drawing off the urine. Nevertheless, all the appearances of amendment in the patient's condition proved fallacious. At two in the afternoon, when I again saw him, he was evidently moribund. The efforts at vomiting had returned shortly after the last visit, and still continued; the pulse was imperceptible at the wrist; cold sweats again bedewed the body; the countenance was anxious in the extreme; the breathing panting, and accompanied with the tracheal rattle. The patient, who was quite sensible, said he had no pain, and was sure he would be better next day. I need scarcely add, that he expired shortly afterwards, viz. at six o'clock of the same evening. Thus the time which elapsed between the last sudden attack and its fatal termination was exactly twenty and a *half* hours.

On Tuesday morning, thirty-eight hours after death, I proceeded with a medical friend to inspect the body. It was plump, on many places showed livid patches, and exhaled a most offensive odour; the abdomen was very tympanitic, and the scrotum was inflated to an enormous extent; on laying open the abdomen, fœtid air gushed out in great abundance; the large omentum was much upon the stretch, and at one point adhered strongly to the left hernial sac; on turning it over, the small intestines were seen highly injected, streaked with lymph, and in many places covered with purulent matter; they did not, however, adhere to each other nor was any portion of them engaged in either hernial sac. In the pelvis, and right and left lumbar regions, we found a considerable quantity of a dark-brown coloured fluid, having a most offensive feculent smell, and on examining more minutely the state of the intestines, we found, in addition to the general effects of acute inflammation already described, lying towards the left side, and in that portion of intestine usually considered as the commencement of the ileum, a circular perforation, large enough to admit the point of the forefinger. The appearances of inflammation were more vivid in this situation, and the quantity of lymph and purulent matter thrown out was greater than in the other parts. It was evident that the intestinal tunics were not all destroyed in an equal manner, *the destruction of the peritoneal being considerably greater than that of the mucous.* On the same portion of intestine, and within 1½ inches of the perforation, a small spot of ulceration was discovered, *confined entirely to the serous membrane.* The mucous coat was throughout healthy, and even in the immediate vicinity of the perforation, showed no traces of increased vascular action. We examined most carefully the whole intestinal tract from the stomach to the rectum, but could discover no further lesions. The mesenteric glands were of their normal volume.

I have related the preceding case at full length, first, because I consider it almost unique; and, secondly, and more particularly, because the symptoms of perforations in general are so well exemplified in it, as to render any farther grouping of them together unnecessary.

The opinion I formed at the time of its occurrence, on mature reflection I still adhere to. I think that the commencement of diseased action in the peritoneum dates from the time at which the symptoms of strangulation were first observed,—that was about fourteēn or fifteen days before the patient's death: that during that period, inflammation of a sub-acute character and of a partial nature was going on, causing first ulceration of the peritoneum, which, by a process of extension, involved the other intestinal tunics and led to perforation. My reasons for this opinion are, first, that the portion of perforated intestine was on the left side, and in such a position as to favour the probability of its having been at the time of strangulation in the hernial sac; second, that the slight but continued pain in the left iliac region, complained of from this time to that of his death, indicated the existence of a subacute inflammation; and, third, that the occurrence of the perforation in such an unusual place as the commencement of the ileum, conjoined with the morbid appearances detected after death in the peritoneum, would render, in my opinion, any other conclusions than those I have arrived at, extremely improbable. In forming an opinion of this case, I experienced some difficulty in conceiving the existence of a peritonitis, however partial, unattended by any very urgent symptoms, but a subsequent reference to some authorities dissipated all doubts on this head. I found that after injuries, peritonitis has went on in a circumscribed form, and without any prominent symptoms for a very long time, and in one case related by Scouteten, Broussais and he found on dissection, not a partial but a very extensive chronic peritonitis glueing all the parts together, and yet, strange to say, these extensive lesions were unindicated by any symptoms during life.

However hypothetical my own inferences and speculations may be, as to the cause of this lesion, there cannot, I think, be two opinions as to the fact, that the morbid action by which the intestine was perforated, commenced in the peritoneum and penetrated from without into the interior healthy structure of the mucous membrane. The appearances upon dissection were unequivocal upon this point, and the accurate wax cast of the parts made by Dr Paterson of Glasgow (and now with the preparation itself in my possession) bears me out in the accuracy of my first diagnosis during the patient's life, as well as beautifully shows the morbid appearances observable after his death

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Article VI.—*Cases of Hernia.* *By* John Paul, M.D., *Surgeon to Gray's Hospital, Elgin.*

Case 1.—Robert Gordon, aged 21, a groom, had occasion to ride from Fochabers to Cullen, on the 26th January, 1842, a distance of thirteen miles, and on his return home the same day, became sick and vomited. In infancy, he had been troubled with an inguinal hernia on the left side, for which he wore a truss; but for the last eight years had discontinued wearing it, and had experienced no inconvenience from the want of it, as there had been no hernial protrusion till he was on his way home from Cullen on this occasion. On his arrival at the stable, he endeavoured to return the protruded bowel, but did not succeed. Mr Robertson, surgeon, was sent for on the following morning, when he found him labouring under all the symptoms of strangulated hernia. The taxis was tried, but ineffectually, the tumour being so painful that it would not bear much handling. Bleeding till syncope supervened, the warm bath, the tobacco enema, and the application of ice were had recourse to with the same unhappy result. The operation was proposed, but not agreed to, till the morning of the 31st, when I was sent for.

The patient had now a dejected and sunk expression. The left side of the scrotum was much swollen, inflamed, and very œdematous. The operation was immediately proceeded with. The different tissues were so thickened from inflammatory action, that it was with much difficulty that the bowel was exposed, which was found to be completely gangrenous. The peritoneum was so adherent to the bowel, that on separating them by the most careful dissection, the bowel burst. The opening in the intestine was made sufficiently large, and a warm poultice was then applied to the wound. So soon as the patient rallied from the immediate effects of the operation, epsom salts in small doses were given from time to time, and in the course of the day, the bowels were freely opened by the wound. The stomach was now retentive, and, except the formation of an abscess in the scrotum, every thing went on as favourably as could be wished. The swelling subsided rapidly, and the wound appeared to contract. Little further treatment was required beyond keeping the parts clean, and regulating the bowels when necessary. Some exuberant granulations required to be kept down by caustic. Ten days after, he felt some desire to have a stool by the rectum, and upon making the attempt, he had a copious evacuation. This desire was encouraged by small doses of the sulphate of magnesia, and he continued to have two or three stools per anum daily. The wound now closed up very fast, and very little feculent matter escaped from it, so that before the end of the thirteenth week, the patient began to walk about wearing a truss. In two weeks more, the wound was entirely closed, and the man resumed his work as a groom.

I have lately seen this young man, who continues in good health; his bowels act naturally and with great ease, seldom requiring the aid of medicine. He wears a truss with a flat pad, which effectually prevents the protrusion of the bowel; but on its removal, there is an immediate bulging out, apparently a good deal from distension of the bowel with air. The portion of intestine originally involved in the hernial tumour is now evidently adherent to the integuments.

CASE 2.—Mrs Cassey, a feeble old woman, past 70 years of age, became the subject of obstructed bowels in January 1842, apparently from strangulation of a crural hernia of many years' standing. The bowels had not acted for nearly a week, and nothing during that time had remained on her stomach. The vomiting was frequent, and for the last day or two stercoraceous. The belly was very tympanitic, and remarkably tender. In the right groin, there was a small hernia, which, she said, she had had for 35 years. At this time, the patien thought that the tumour was somewhat larger and tenser than usual; still it was not large nor very painful. The tumour, from its first appearance, could never be reduced; although it would be at one time larger than at another. She had often been troubled with pain in her bowels, which were frequently difficult to move, but were never before obstructed for any length of time. Conceiving that a strangulated portion of intestine in this hernial tumour was the cause of the obstruction, I proceeded with the usual operation. On opening the peritoneal sac, a portion of omentum only was found, which certainly, so far as I could judge, did not appear to suffer from compression. Notwithstanding this, I divided on the tip of my finger, the lower border of Gimbernat's ligament; and on pushing the finger gently through the aperture, the patient exclaimed, that she was relieved. The symptoms were certainly soon very much mitigated; the vomiting subsided, although the stomach would not retain any purgative, except calomel combined with opium. This combination—ten grains of the former, and one of the latter—administered three times at proper intervals, acted powerfully on the bowels. The wound granulated, and healed in a reasonable time. She now wore a truss, and suffered no inconvenience for nearly a year, when the intestine unfortunately protruded, and became strangulated. Of this, from the dread of another operation, she did not apprise me, till the parts were in a state of complete sphacelus, which, in despite of every effort to save her, very soon led to death.

Nothwithstanding the expression of relief by the patient, on the division of the lower edge of Gimbernat's ligament, I am unable to satisfy myself how that relief was afforded by the operation, as there was no portion of intestine in the hernial sac, and the omentum did not appear to be constricted.

The good effect of calomel and opium was very conspicuous in this case; and I cannot speak too highly of the exhibition of calomel, in doses of ten or fifteen grains, with a grain or half a grain of opium, in obstruction of the bowels, when the irritability of the stomach is such that it will retain no other kind of purgative. The opium quiets irritability and pain, whilst the calomel not only acts as a purgative, but by its operation on the system, subdues any inflammatory action that may be established; and this effect is peculiarly desirable in cases where the vital energies will not admit of the abstraction of blood; or when bleeding has been carried to the utmost.

Elgin, October 12, 1843.

Article VII.—*Case of Retention of Urine, successfully treated by Ergot of Rye.* *By* James J. Ross, M.D., *Cambusmore, Sutherlandshire.*

W. R., aged between 70 and 74, was, on the evening of the 21st December, 1841, suddenly seized with retention of urine. For three days, he lay in a state of great agony, notwithstanding the use of enemeta, warm fomentations, &c. At the end of this period, the water began to dribble away involuntarily—the contents of the bladder, as it were, ran over. Pain still continued acute in the hypograstric region, and it was not till the 30th December that the catheter was introduced, when an immense quantity of urine came away.

On the 2d January, 1842, I first saw him; he was then reduced, weak, and low-spirited; appetite almost abolished; bowels confined, with uneasiness in the region of the bladder, and complete retention of urine. There was no appreciable enlargement of the prostate, nor any obstacle to the introduction of the catheter, which was now passed three times a-day. The urine drawn off, though at times muddy and dark, was generally clear. On the 12th January, however, it became all at once as dark as port wine, evidently from bloody admixture. This was speedily checked by doses of alum gr.xv, with tinct. mur. ferri gtt. xx, every three hours, and it soon became again clear and healthy.

The general health and strength having suffered much, he was ordered a bitter tonic infusion three times a-day. This was successful in restoring the appetite and increasing the strength, while the urine continued to present the characters of health; but not a drop came except by the catheter, which, in order to prevent any undue accumulation in the bladder, was now passed four times a-day.

About the 10th February, he was able to leave his bed and sit up a portion of every day. He now commenced to take the Ext. S. N. Vomicæ gr¼. His health improved, he became stronger and stronger, till at last by the end of February, he was pretty well in all respects, except that the retention continued as perfect as ever—not a drop of water escaped, even alongside the catheter.

Seeing at this time a paragraph in *Johnson's Review*, for July 1839, p. 221, mentioning some similar cases treated successfully by ergot of rye, I determined on giving it a trial. Accordingly, on the 2d March, it was begun in the dose of 10 grs. given in a glass of warm water every morning. It was gradually increased to 15, 20, 25 grs. and ultimately ʒss was given every morning as above. On the third day after the last mentioned dose was attained, there was great irritability of the bladder, constant desire to have the urine drawn off, and pricking pains in the hypogastrium, and the secretion was rather increased in quantity. Next day, a little water escaped through the urethra. The action of the medicine was kept up, and now, on account of the increased irritability of the bladder, the catheter was passed every four hours. Each day, a little water was rendered *per viam naturalem*, chiefly in the morning, and always more readily when exposed to the cold open air than in a warm room; this little gradually increased, so that, by the end of March, about one half was passed naturally. The ergot was now only given occasionally, ʒss every two or three days; and, without further details, suffice it to say, that the bladder gradually recovered its tone. By the 1st May, the patient had quite regained power over it, and was able to pass his urine as freely as ever. He then laid aside the catheter, and from that day to this, he has never had the least occasion to resume it.

Since the occurrence of this case, I have not had another opportunity of testing the ergot of rye; but it seems to deserve a more extensive trial than it has yet got in similar circumstances; especially, where the retention occurs in old subjects, and depends on paralysis of the bladder, arising simply from previous over-distension.

Even *a priori*, it is not unlikely, that the ergot should act on the bladder as well as the uterus, since it most probably operates through the medium of the lower part of the spinal marrow, which supplies both organs with nerves from the sacral plexus. Now Dr Marshall Hall has shown, that the irritability of paralyzed parts is increased above the ordinary standard; and thus he accounts for such parts being affected—by strychnia, for example—sooner than healthy ones. It is not that the strychnia is determined by any mysterious agency towards them in particular, but that they, being more irritable, are more susceptible of its influence; and the same will apply to the ergot. If the expulsive powers of the uterus are weakened, it acts upon that organ, and excites it to contraction: if it be the bladder which is similarly affected—its irritability being according to this view at the same time increased—it exerts its influence upon that viscus; and, further, if there be paraplegia, its effects—from the same cause and the same *modus operandi*—are shown on the paralyzed muscles of the lower extremities. I have tried it in three cases of paraplegia, two of which, though not cured, were certainly very much benefited by its use; and in the *Med-Chir. Review* for July 1839, p. 222, and October 1839, p. 547, several paraplegic cases are given from foreign journals as having been cured by its means. It has also been used successfully in cases of ptosis, by the local application of an infusion made with water or port wine.

It is hardly necessary to say, that the drug should be freshly powdered; and as good a way as any of exhibiting it, seems to be in warm water—swallowing water, powder, and all.

CAMBUSMORE, SUTHERLANDSHIRE,
October 23, 1843.

PART SECOND.

REVIEWS.

A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum. 8vo. pp. 542. *By* T. B. CURLING, &c. &c. London: 1843.

WE recommend every surgeon, desirous of making himself acquainted with the most recent discoveries regarding the minute structure, the functions, and the diseases of the important organ—the Testicle—to peruse Mr Curling's recent Treatise, the title of which heads this notice. We have read the volume very carefully, and are of opinion, that it is the very best monograph on the subject: the style is clear and perspicuous; the arrangement and divisions are very good; but instead of indulging in general laudatory remarks, we think we will do more justice to the laborious author of the work, and likewise to the numerous readers of the

MONTHLY JOURNAL by selecting a few passages on different topics, and appending briefly such practical remarks as the author's views have recalled to our recollection. It is necessary, however, to state, that the work is illustrated by wood-cuts of a very high order of merit,[1] which render the descriptions of both normal and morbid structure easily understood; we cannot give copies of these cuts, and our selections must therefore necessarily be deficient in clearness and vividness.

The work is divided into two parts. In the first division, the anatomy of the organ is detailed in a very clear and distinct manner; but as this is the least interesting part to the practical surgeon, we will consider it very briefly. Sir A. Cooper imagined that the *dartos* existed only in the imagination of the anatomist, and that the movements of the scrotum were not the result of muscular action; but Mr Bowman has lately discovered in its composition "unstriped muscular fibres," by which he has seen the scrotum moved in a gradual, vermicular, and involuntary manner. The cremaster muscle, which is generally described as a process of the internal oblique, having separate attachments and offices, Mr Curling thinks should be considered as an independent muscle.

The weight of the testis varies much in different persons and at different ages. The ordinary weight is about six drachms, and our author is inclined to believe that the *left* is generally somewhat heavier than the *right*. The *tubuli seminiferi*, which form a very beautiful anatomical preparation, when injected with quicksilver, Sir A. Cooper succeeded in filling with size injection. Our author says, " but he has not described the mode in which it was effected, and other anatomists have failed in similar attempts." (Page 18.) This is a subject on which Sir Astley was not likely to be mistaken, and we think his success should encourage experimenters to renewed exertion.

Mr Curling denies that the spermatic veins are destitute of valves; he has frequently injected these veins with alcohol, and on laying them open, has observed the valves, and he has also seen injections arrested by valves.

The descent of the testis into the scrotum is discussed at considerable length. The opinion entertained by Carus and Jules Cloquet, that the cremaster is formed mechanically by the testis pushing the fibres of the internal oblique muscle before it, is supposed to be erroneous: the author's own view of the matter, we think will be understood by the following passage:—

"Now, when we consider the attachments and connections of this muscle (the cremaster) in the fœtus, the perfect condition of its fibres as ascertained by microscopical examination, and the circumstance that there are no other means, no other motive powers by which this can be effected, or in any way promoted,

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[1] By the greatly celebrated Bagg, with the productions of whose pencil every student must be now familiar.

> I think there is no reason to doubt, that the cremaster executes the same office in the human embryo, as that which it undoubtedly performs in certain animals at a particular season. The fibres proceeding from Poupart's ligament and the obliquus internus tend to guide the gland into the inguinal canal, those attached to the os pubis to draw it below the abdominal ring, and the process descending to the scrotum to direct it to its final destination. As the descent approaches completion, the muscular fibres which perform so important a part in it gradually become everted, and, instead of drawing down the testicle, acquire the new functions of elevating, supporting, and compressing it." P. 36.

The development of the testis is influenced by climate, constitutional peculiarities, and mode of life. In warm climates, the period of puberty is well known to be much earlier than in cold countries. In this part of Europe, it may be said to occur from the 12th to the 17th year, and from this period of life to the age of 65 or 70, spermatozoa may be discovered in the seminal fluid. In a *tailor*, who died at the age of 85, Mr Curling found them to exist.

The chapter on the functions of the testis is interesting, but we cannot find space for its consideration.

The practical part of the treatise is divided into the following heads: 1. Diseases of the testis. 2. Diseases of the spermatic cord. 3. Diseases of the scrotum.

The 1st chapter of the first of these divisions is devoted to *congenital imperfections, and mal-formations*. These are shown to be less frequent than was at one time supposed. There is perhaps no unequivocal instance of supernumerary testes; one case is given by Dr Fisher of Boston of the absence of both; the physical characters of this man are thus described:

> "At puberty the man's voice remained unchanged; he had no beard or whiskers, the skin of the pubes and scrotum was without hair, the penis was not larger than that of a boy ten or twelve years old, and the scrotum was contracted in size.... This man never exhibited any amorous propensities, or desire for female society." P. 55.

A case is quoted of an infant, who died aged 4 months, in whom Mr Thurnam could discover only one testicle. Geoffrey St Hilaire has recorded one unique case of union of the testes within the abdomen.

Several cases are given of differences and imperfections of the vas deferens. The following conclusion is important:

> "Now, in Brugnone's case, and in Bosscha's, we have examples of one of the male conducting tubes being developed in only a very small portion of its natural extent. These, therefore, clearly confirm the description just given; for they prove that the testes may be formed quite independently of the vasa deferentia. In the other cases, the vas deferens was probably formed originally in its whole length; but it seems to have failed of acquiring its due connection in the one series of defects at the end next to the testicle, and in the other, at the end next to the bladder.
>
> "The foregoing cases and experiments show, then, that the testes may be properly developed, though a physical obstacle to the elimination of their secretion is present from birth; and that so long as the testicles exist entire, though to no purpose, the individual acquires and preserves all the marks of the male sex, the secreting alone appearing to be the special organs of generation upon which the sexual characters depend. The engorgement of the seminal ducts

with sperm is liable, it is true, to cause inflammation of the testis, which may end in atrophy, but this is only a secondary and occasional effect of the interruption in the excretory duct." Pp. 62, 65, 66.

The next section is devoted to *imperfect descent of the testes*; they may be retained within the abdomen, or in the inguinal canals. Under this head, the following important practical hints are given:—

> "As far as may be judged from these dissections, the testis is more frequently found imperfect and atrophied when arrested in the inguinal canal, than when confined within the abdomen." P. 78.

> "We perceive, then, that when a testis is retained in the groin, there are various circumstances which tend to interfere with its evolution at puberty, to impede its nutrition, and to excite inflammation and disease in it; and we find from dissection, that such results are very liable to follow. A testis, therefore, situated in the abdomen, is in a more satisfactory position, and is much less exposed to injury and disease, than one which has been arrested in the groin. On this account, and as the descent is seldom perfectly accomplished when delayed beyond the age of ten or twelve, I think it becomes a serious consideration, in cases where the gland does not make its appearance till this late period, whether the well-being of the patient would not be best consulted by our employing some mechanical means to prevent the escape of the organ from the abdomen. A strong reason for adopting this practice is afforded by the great liability to rupture which exists in all cases of the tardy descent of this organ, owing to the persistence of a sac ready prepared for the reception of a protrusion, and in many instances, to adhesions between the testis and intestine or omentum." Pp. 79, 80.
>
> "Mr Pott also justly remarks, in regard to the imperfect descent of the testis, 'I do not know any particular inconvenience arising from the detention of a testicle within the cavity of the belly; but the lodgment of it in the groin not only renders it liable to be hurt by accidental pressure, &c., but, when it is so hurt, may be the cause of its being mistaken for a different disease, and thereby occasion its being very improperly treated. To which considerations this may be added, that there is no kind of disease to which the testicle is liable in its natural situation, but what may also affect it in any or all of its unnatural ones." Pp. 83, 84.

In some very rare instances, a testicle finds its way into the scrotum. Instances of this malposition are recorded by Mr Hunter. The following is worth quoting in reference to this point:—

> "Mr Adams has informed me, that many years ago a little boy, one of whose testes had thus deviated from its proper course, was brought to the London Hospital. The testis was lodged in the perineum at the root of the scrotum. The irregularity is exceedingly rare, and the above cases are all with which I am acquainted.
>
> "This peculiar conformation is attended with great inconvenience and risk of injury to the testis, when the subject of it assumes the sitting posture, and rides on horseback. Mr Hunter advised, that the organ should be supported in a situation near the groin, by the application of a bandage that might hinder its descent into the perineum, by which the parts might be in time so consolidated as to retain it by the side of the scrotum." Pp. 92, 93.

The next chapter discusses *atrophy of the testes*. Many causes of this affection are mentioned; but the most important, in a practical point of view, are varicocele, inflammation of the body of the testes, the long-continued use of iodine, and injuries of the occiput.

Instances of the two first of these have probably occurred to every practical surgeon. So far as the use of iodine is concerned, we fully concur in the opinion of our author:—

> "I feel convinced, that the effect of iodine in producing wasting of the testis, if it ever occurs, happens so rarely, that the liability to it cannot be regarded as any objection to the free and long-continued use of this valuable remedy."—P. 107.

We have used iodine, and seen it used, in as heroic doses as have, perhaps, ever been exhibited, and we have *never* seen it produce the slightest wasting of either the testis or the mamma. It is frequently blamed without any cause. A young man consulted us lately for secondary syphilis; when about to prescribe for him, he cautioned us not to order iodine, as his testicles were much wasted in consequence of its previous use. On examination, so far from finding them wasted, they were larger than they usually are.

We beg to express our scepticism of the influence of injuries of the occiput over the testes. Of the many injuries of the head which we have witnessed and carefully investigated, we have not found one single instance corroborative of such an opinion. It would require less equivocal cases than those adduced by a certain class of philosophers to bolster up their absurd hypothesis, to satisfy us.

The following table exhibits the author's classification of the species and varieties of hydrocele;—

Hydrocele.	Of the Testis . .	Simple.	
		Congenital.	
		Encysted	Of the Epididymis.
			Of the Tunica Albuginea.
			Of the Tunica Vaginalis.
	Of the Spermatic Cord	Diffused.	
		Encysted.	
	Complications of .	Simple H. combined with Encysted H. of the Testis.	
		Simple H. combined with Encysted H. of the Cord.	
		Simple H. combined with Diffused H. of the Cord	
		Oscheo-Hydrocele .	Simple H. combined with Inguinal Hernia.
			Encysted H. of the Cord combined with Inguinal Hernia.
	Of the Hernial Sac	. . . .	True.
			Spurious.

P. 124.

The following quite accords with our own experience:—

> "Hydrocele is a very common disease in persons of all ranks in life, and in most climates, but more particularly in warm countries. It has been remarked by surgeons in extensive practice in London, that a large number of the patients who apply to them for the relief of this affection, have passed several years in the West Indies or some other warm country. Dr Farre has noticed

the frequency of hydrocele in Barbadoes; and, according to Mr Martin, it is a very common disease amongst the natives of Lower Bengal."—P. 130.

To assist our examination of this disease, the following hint is worthy of being kept in mind :—

> "In cases in which the parietes of the cyst are unusually thick, or the fluid is very dark-coloured, I have sometimes derived considerable assistance, from using a wooden tube, about three quarters of an inch in diameter, open at both extremities. One end being placed against the swelling opposite the light, the surgeon, on looking through the other, can observe the transparency with great advantage. If a more convenient tube be not at hand, a roll of writing paper will answer the purpose."—Pp. 138, 139.

We doubt the following statement :—

> "A hydrocele sometimes varies in size, being larger and more tense in the after part of the day than when the patient first rises in the morning."—P. 139.

We have often been told so, especially by the parents of youths or infants, and have been at pains to ascertain the truth, by examining in the morning those cases in which it was reported to occur very markedly, and never could discover any ground for the statement. In congenital hydrocele a small opening exists between the peritoneal sac, and that of the tunica vaginalis. The first indication of cure is to obliterate this opening :—

> "This form of hydrocele very rarely requires injection for its cure, and the operation should never be performed unless the surgeon is fully satisfied that a communication no longer exists between the sac and the abdomen. If the sac is injected before closure of its neck, peritonitis is very liable to ensue, and to endanger the life of the patient. Desault, Dupuytren, and other surgeons, after puncturing the sac and evacuatingthe fluid, have injected a stimulating liquid, firm pressure being made upon the ring, and continued for some time after the operation; and the practice has in some instances been attended with success. But in other cases peritonitis has been excited, and death has followed. Pp. 183, 184.

Diffused hydrocele of the spermatic cord, discussed in the 4th section, is a rare disease. It has been described by Pott and Scarpa, but not by Sir A. Cooper.

> "The disease is of the nature of simple œdema, a watery fluid being diffused throughout the cellular tissue connecting the vessels of the spermatic cord, and enclosed in a cellular sheath, which is invested by the musculo-aponeurotic structure of the cremaster muscle. . . . The cells infiltrated with serum, which in their natural state are scarcely visible by the unassisted eye, are converted into large vesicles, some of which are big enough to admit the end of the finger. These cells appear larger and more delicate towards the base of the swelling, where they sometimes disappear altogether; so that there is only one considerable cavity, the fluid having a tendency to collect towards the lowest and most depending part, and to form a fluctuating tumour there. The base of the swelling corresponds to the point at which the spermatic vessels join the testicle, and at this part a dense septum cuts off all communication with the tunica vaginalis." Pp. 197, 198.

The diagnosis is difficult: it appears to us, that two symptoms only are sufficiently pathognomic, in cases in other respects obscure, to warrant surgical interference; these are, distinct fluctuation and translucency. These characters being absent, and the case in other respects doubtful, we ought not to operate. As regards the treatment, we agree with our author in thinking, that

> "This form of hydrocele admits of temporary if not permanent relief, with perhaps less risk than was supposed by Mr Pott. For, as the cells communicate freely, it is not necessary to make a large incision for the removal of the fluid, one or two acupunctures in the depending part of the tumour being sufficient to enable the fluid to escape into the cellular tissue of the scrotum, from which it will soon be removed by absorption." P. 203.

Encysted hydrocele of the cord.—This is the disease which usually goes under the name of hydrocele of the cord; the diffused form being very rare, and not easily detected. The tumour may be placed in the groin, within the inguinal canal, or in the scrotum. In the former situation the diagnosis is so obscure as to forbid surgical interference; in the latter, fluctuation and translucency distinguish it from hernia; and the testicle, distinctly felt at the bottom of the scrotum, and separate from the swelling, distinguishes it from common hydrocele. Notwithstanding this, the disease is frequently mistaken for hernia. Within these few days, two boys were brought to us for rebellious herniæ, which would not yield to trusses, both of which presented examples of this disease; one of these was so large, that we immediately punctured it with a trochar. The treatment in the majority, especially in children, may safely be left to nature; the swelling very generally disappears spontaneously. If not, the cataract needle or trochar may be used, and will frequently effect a radical cure; these failing, we agree with the author, that the insertion of a seton is the best operation.

> "Let the scrotum be tightly grasped with the left hand, so as to render the tumour tense and prominent. Then let a large-sized curved needle, armed with a double silk ligature, be introduced at the lower part of the swelling, and brought out above at a distance of an inch and a half, or two inches, from the part where it was introduced, and the ends tied together to prevent the seton escaping. The fluid will afterwards dribble away along the silk, and in a few days after the operation, and perhaps in twenty-four or thirty-six hours, sufficient inflammation will be established. The threads can then be withdrawn, after which the cyst becomes permanently obliterated by adhesion, no other trace of it remaining but a slight induration at the part, which disappears completely in a short period. This I have found to be an effectual and safe proceeding." Pp. 211, 212.

Hæmatocele.—Extravasation of blood may occur within the sac of the tunica vaginalis, in the healthy state of the parts, in consequence of any kind of mechanical injury, or it may take place in combination with hydrocele; in the latter case, it may be occasioned either by a blow or some such accident, or from a wound of some of the vessels of the tunica vaginalis, or of the testis or spermatic artery, during the operation of tapping. In hæmatoceles of long standing the blood becomes broken down and changed into a substance resembling coffee grounds or porter, but occasionally converted into a firm fibrinous substance arranged in layer, as is seen in the interior of some aneurismal swellings. Occasionally, the effused blood gives rise to inflammation, which terminates in the formation of pus, which is discharged with the clots of blood. In hæmatocele, the blood holds exactly the same relation to the testes, as the serum in hydrocele; and its position is liable to similar changes, as the following instructive case shows:

> "I once witnessed an 'untoward event,' which happened in the practice of a surgeon who was unaware of the testis being out of its usual position. A young man had a hydrocele, which had succeeded to an attack of secondary orchitis, occasioning an adhesion of the gland to the front of the sac at its lower part. The case became converted into a hæmatocele by the wound of a vessel in the operation of tapping. Inflammation ensued, and it became necessary to lay open the sac. The surgeon, in carrying the incision to the lower part of the tunica vaginalis, divided the vas deferens, and severed the sound testicle nearly in two with his bistoury, the thickening around the sac having prevented him from detecting the gland in its unusual situation." P. 240.

A hæmatocele is to be distinguished from a hydrocele by the absence of transparency, the obscurity of the fluctuation, the weight and the rapid progress of the swelling: it may be mistaken for disease of the body of the testis.

> "In old cases, in which the tunica vaginalis and its envelopes have become much thickened and indurated, the tumour possesses so firm a character, feels so heavy and solid, that it is very liable to be mistaken for a chronic enlargement of the testis; and the diagnosis, at all times difficult, in some instances cannot be satisfactorily made out by the nicest manipulation of the most experienced hands. The records of surgery furnish many cases in which castration has been performed from a mistaken diagnosis: I have known three instances of the kind myself. In chronic enlargement of the testis, whether from malignant deposit or other disease, the gland loses for the most part its natural sensibility; but in hæmatocele pressure on the back part, where the testis is usually situated, occasions the peculiar pain always experienced when the organ is compressed." Page 244.

The treatment in such cases must be antiphlogistic:—rest in the recumbent position, support of the organ, cold applications or leeches, and purgative medicine. When the extravasation is small, it may be removed by the absorbents—always a slow process: or if it be more abundant, it may be removed by an incision, and measures taken to prevent inflammatory action. When hæmatocele is combined with hydrocele, the contents may be evacuated with a trochar, leaving the cure to be effected by inflammation. Injections should never be resorted to, until the discharge evacuated has become colourless. This advice was first given by Sir B. Brodie, and we lately saw a case in which an opposite opinion was acted on, prove very serious indeed; the patient narrowly escaped with his life, so great was the irritation produced by the injection.

Hæmatocele of the cord is a rare disease; it was first noticed by Pott, who has related three cases of the kind, in one of which he removed the testicle, in consequence of being unable to repress the hæmorrhage—a practice which we think few modern surgeons will follow.

ORCHITIS.—Of this disease our author says,

> "Inflammation of the testis occurs in two forms, acute and chronic; and it may commence either in the body or secreting part of the organ, or in the epididymis. Inflammation beginning in the body of the testis may be idiopathic, or may be excited by external violence: the disease is at first confined to the interior of the organ, the epididymis and tunica vaginalis being affected only secondarily, and sometimes entirely escaping. Orchitis is far more frequently a consecutive affection than a primary, the inflammation being transmitted from the urethra by the course of the vas deferens. In this latter form of orchitis, which is familiarly known by the term *hernia humoralis*, the epididymis is first attacked, and the tunica vaginalis generally participates in the disease." P. 253.

We have seldom an opportunity of examining a testis in the state of acute inflammation; our author has had three such opportunities, and we will make no apology for quoting part of this description of the state of parts presented.

> "The tunica vaginalis is more or less distended with lymph, or albuminous matter infiltrated with reddish serum, which form loose adhesions between the opposed surfaces of the membrane; these adhesions are so slight as easily to admit of being broken down with the finger. The membrane is injected with a multitude of minute red vessels, which ramify in various directions, and form a compact net-work. At a later period, red vessels may be traced, proceeding from the free surface of the tunica vaginalis to the false membranes forming the adhesions. The volume of the testis appears very little if at all increased, the great bulk of the tumour being occasioned by the effusion into the serous sac. When cut into, the gland appears somewhat darker than natural, from a congested state of the vessels. This epididymis, particularly the lower part, is enlarged to twice, and sometimes thrice its natural size, and feels thick, firm, and indurated. The enlargement is produced by the effusion of a brownish deposit in the cellular tissue between the convolutions of the duct. The coats of the vas deferens are thickened, and the vessels ramifying near them injected, sometimes along the whole extent of the duct." Page 254.

In many cases, when the inflammatory action has subsided, the organ regains its normal condition, but in others, changes of a very formidable character take place, of which complete atrophy is one of the most formidable results. Various causes are well known to give rise to acute orchitis, such as mechanical injuries, exposure to cold, and excessive excitement of the sexual organs. Inflammatory swelling of the testis sometimes follows an attack of "mumps," but neither Sir A. Cooper nor our author have seen wasting of the testis ensue from this affection.

We fear much misapprehension prevails amongst the members of the profession regarding the points discussed in the following paragraph. The author's views entirely coincide with our own experience.

> "This form of the disease, though less common than the other, is by no means of unfrequent occurrence. Of one hundred and four cases of gonorrhœal orchitis noted by M. Aubry, in thirty-one the disease was sympathetic; in the remaining seventy-three, the inflammation first attacked the vas deferens. It is the opinion of many surgeons, that inflammation of the testis most frequently arises in cases in which the discharge has been somewhat suddenly arrested by the administration of cubebs or copaiba, or the use of injections. More mischief is perhaps ascribed to these remedies than they can justly be said to produce. I have prescribed copaiba and cubebs separately or conjointly in all stages

of gonorrhœa, and have not found the patients to whom they were exhibited more liable to be attacked with orchitis than others treated differently. Mr Broughton mentions that out of fifty cases of gonorrhœa treated with cubebs, swelling of the testicles occurred in only two instances; a proportion so small that it would be unfair to attribute the occurrence of the orchitis to the use of the remedy. Sir B. Brodie states, he is satisfied that he has seen this disease quite as often where no remedies, such as cubebs and injections, were used, or where they had been had recourse to. With regard to injections, my own experience leads me to conclude, that when employed of the proper strength they are very little liable to excite orchitis. It is only when used improperly, when too strong and injected too freely, so as to aggravate or too suddenly suppress the urethral inflammation, that they tend to produce inflammation in the testis. According to my observation, orchitis most frequently arises in those cases in which the affection of the urethra is allowed to linger for want of a due exhibition of the remedies alluded to, particularly when the prostatic part of the canal is affected. Some pathologists have gone so far as to say that the chances of a swelled testis are increased in direct ratio to the continuance of the disease in the urethra. Certainly most practitioners will allow that the occurrence of orchitis during the early and acute stage of gonorrhœa is comparatively rare." Page 268.

One would think the diagnosis of orchitis by no means difficult, nevertheless, we have met with one case, in which the attending surgeon had treated the patient with strangulated scrotal hernia as orchitis, for five days: the result was an artificial anus, and death of the patient.

Orchitis in early life is a rare disease. Mr Curling, however, has met with two instances, which he details.

The treatment of this affection consists in rest, support of the organ to counteract the effects of gravitation, evaporating lotions, and purgatives. In the following advice we fully coincide:—

"A quarter of a grain of tartar emetic may be exhibited every three or four hours, and the dose, if necessary, increased until nausea is produced. This is one of the most valuable remedies that can be employed in acute orchitis; and when patients are desirous of avoiding the trouble, mess, and exposure consequent upon the application of leeches, the exhibition of tartar emetic will generally render local depletion unnecessary, whilst its depressing influence being only temporary, the patient quickly regains his health and strength. I have seen most acute orchitis arrested and subdued in thirty hours, by keeping up constant nausea by means of this remedy. When there is much pain or constitutional derangement, two or three grains of calomel, combined with eight or ten grains of Dover's powder, or with small doses of morphia, may be given at bedtime. In consecutive orchitis, in which the tunica vaginalis is so generally affected, considerable benefit is derived from mercury; and experience fully confirms what reason would lead us to expect from its remarkable efficacy in inflammation of the other serous membranes. The value, indeed, of mercury, in the treatment of this form of orchitis, scarcely appears to be fully appreciated by the profession. In acute cases, after the bowels have been freely acted on, and the pulse has been lowered by tartar emetic, I usually prescribe mercury, and continue it until the gums become slightly affected. I am confident that by this treatment the duration of this form of the disease is often materially abridged, and, what is of some importance, it is succeeded by much less induration and thickening of the epididymis than when the exhibition of mercury has been deferred to a later period.

"In treating cases of orchitis in private practice, it is generally desirable to avoid bloodletting, especially local; but in cases of a severe or obstinate character, depletion sometimes becomes necessary. Bleeding from the arm is only required when the inflammation and symptomatic fever are unusually acute. In a robust person, one full depletion at the onset of the attack in many instances considerably abridges its duration, and renders local abstraction of blood afterwards unnecessary. This is a practice which might be resorted to more frequently than it usually is, especially in treating the working classes, to whom time and the expense of leeches are objects of consideration." Pp. 279-281.

Dr Fricke of Hamburgh introduced the treatment of orchitis by *compression*, which has been tried very generally with somewhat varied success. In hospital practice, if a surgeon entrusts the application of the bandages to the *dressor*, he will in many cases be disappointed. The proper application requires no small manual dexterity. The author's directions are as follows:—

> "The parts are to be shaved; and some *emplastrum plumbi* must be cut into strips, about three quarters of an inch in width, and eight or nine inches in length. The opposite testis and side of the scrotum being drawn away from the diseased one, so as to render the integuments of the latter quite tense, the first strap is to be placed circularly round the cord, just above the testis, as tightly as the patient can bear it. The second strap is to be placed in an opposite direction, from behind forwards, at the side of the testis near the septum. The third strap is to be applied below the first, so as partly to overlap it; and the fourth in like manner, internal to the second; and so on in succession, until the straps meet, and the whole of the testis is covered, and evenly compressed. A few additional straps may afterwards be applied where most needed, to afford support, and keep the others in place; the parts are afterwards to be supported in a suspensory bandage. The strapping generally requires to be re-applied in the course of twenty-four hours. When the patient rises after its application, he feels completely relieved from the aching pain and sense of weight; and patients who have remained in bed in consequence of the pain, have immediately been able to get up and walk about. P. 283, 284.

We have already so much exceeded the limits to which we intended to confine ourselves, that we must, however reluctantly, pass over the many other important subjects discussed in the volume. The length to which our remarks have extended sufficiently indicate our estimation of Mr Curling, and we conclude by again strongly recommending his book to our readers.

* * *

On the Extirpation of Diseased Ovaria, by the large incision from Sternum to Pubes. By CHARLES CLAY, &c. &c. Manchester.

Three Cases of Extirpation of Diseased Ovaria. By D. HENRY WALNE, Esq. &c. &c. London.

Removal of a Dropsical Ovarium. By GEORGE SOUTHAM, &c. &c. Manchester.

Case of Extirpation of a Diseased Ovarium. By C. A. KEY, &c. &c. London; in Guy's Hospital Reports for Nov. 1843.

GASTROTOMY, for the removal of diseased ovaria, was first performed in this country, by Mr John Lizars of Edinburgh, who published a monograph on the subject, in 1825, containing an account of four cases. We entertained a confident hope, that the result of the operation, in the hands of that experienced surgeon, would have deterred others from repeating such experiments. The array of pamphlets which head this article sufficiently proves, that we have been mistaken, and that there are still in the profession individuals desirous of acquiring notoriety, and extending the sphere of their usefulness, by the advocacy of an operation which neither requires anatomical knowledge nor surgical dexterity, but which is chiefly remarkable for its coarseness and cruelty. Operative interference is perhaps too highly estimated by students of medicine and junior practitioners; and we fear, Mr Clay's attempts to prove that the extirpation of diseased ovaria, by the *major* operation, is "a *perfectly legitimate* and more than ordinarily successful operation, far more favourable in its results than lithotomy, lithotrity, or even amputation," will lead to much human suffering and loss of life. We deem it therefore a duty, incumbent upon us, to lay before the readers of the MONTHLY JOURNAL a brief analysis of the cases which have been lately published, and to examine into the accuracy of the statistical data which Mr Clay adduces in favour of the operation. Hitherto, no notice has been taken of these cases in our Periscope, and we will therefore be more readily excused for occupying a few pages of the present Number with their consideration; but before entering into details, we must explain, for the benefit of the uninstructed, what is meant by the terms *major* and *minor*, when used in reference to the operations for the removal of ovaria.

The *minor* operation, which was recently practised and advocated by Mr Jeaffreson of Framlingham, Suffolk,[1] consists in making an incision, one, two, or three inches in length, through the abdominal walls, puncturing the ovarian sac with a trochar, and emptying it of its contents, so that it may be drawn through the opening, its pedicle secured, and separated. The *major* operation, which is recommended in very strong terms by Messrs Clay, Walne, Key, and Southam, consists in making an incision of from 9 to 20 inches in extent into the abdomen, or, in the phraseology of its patrons, "*from the sternum to pubes*,"[2] exposing the tumour and its connections, securing the pedicle, and afterwards separating it on the distal side of the ligature. The comparative merits of these two methods of operating have given rise to a considerable discussion in the columns of the *Medical Gazette* and the *Medical Times*.[3] It is not our intention to enter upon this disputed territory, but refer those anxious to learn the nature of the discussion to the original sources. We must confess, however, that we cannot promise that they will find either much satisfaction or solid, useful information.

We have frequently heard *medical statistics* treated with ridicule and contempt, as data which every writer tortures into such forms as will best suit the views which he advocates; and really, if Mr Clay may be taken as a fair sample of medical statists, there is just ground for the grave charge. He adduces the following table as affording the actual results in reference to these operations.

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[1] Transactions of the Provincial Medical and Surgical Association, vol. v.

[2] See Clay's Pamphlet *passim*. [3] See these publications for 1843.

CASES OF THE MINOR OPERATION.

	Successful.	Fatal.
Dohlhoff, Germany,	1	2
Jeaffreson, Ipswich,	1	0
King, Sax-mundham,	2	1
West, Troubridge,	1	0
Phillips, London,	0	1
Dr Stelling,	0	1
	5	5

CASES OF THE MAJOR OPERATION.

	Successful.	Fatal.
L'Aumonier, France,	1	0
Dr Smith, Connecticut,	1	0
Dr Macdowall, Kentucky,	3	0
Mr Lizars, Edinburgh,	3	1
Mr Clay, Manchester,	3	0
Mr Walne,	1	0
	12	1[1]

According to these tables, of 10 cases of the *minor* operation, 5 recovered, and 5 died; and out of 13 operated on by the *major* operation, 12 recovered, and only one died. We shall be able to show, by examining the cases in the latter table *seriatim*, that gross errors have crept into the author's calculations—errors which can be explained only in one of two ways:—The writer either has not read the cases, or his enthusiasm has perverted the statements of the authors who detailed them; neither of the tables can be depended upon.

1*st*, *L'Aumonier's case.*—This case is placed in the table for no other reason we can conceive, but to swell the list of cures, for it has really not the slightest connection with the subject under discussion. It was simply a case of suppuration within the Fallopian tube or ovary, and the surgeon, not satisfied with the evacuation of the pus, removed the walls of the abscess,—a procedure as unnecessary, as it was unscientific and barbarous.

2*d*, *Dr Smith's case.*—We are at a loss to understand, on what grounds this case is placed under the *major* operation. An incision, a few inches in length, was made into the abdomen, and the sac cut open with a scalpel, so as to allow its contents to escape. When the sac became collapsed, it was withdrawn from the abdomen with some difficulty, and its attachments destroyed. Surely this is the identical operation recommended by Jeaffreson. Dr

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[1] Cases of peritoneal section, page 13.

Stelling's fatal case is placed under the *minor* operation, although the incision was two inches longer than in Dr Smith's. Does the fatal termination in the latter instance explain the cause of Mr Clay's inconsistency?

3d, Dr Macdowall's three cases.—We entreat the reader to peruse the details of these cases, published in the *London Medical Repository*,[1] and the accounts sent by the operator to Mr John Bell,[2] and which were found by Mr Lizars amongst that gentleman's posthumous papers, and, we think, he will place little confidence in the Kentucky cases. Dr Macdowall tells us, that in the first case, he made an incision "on the left side, about three inches from the rectus muscle, continuing it nine inches in length. He seems to forget, that the woman had ridden to his own residence to have the operation performed, and the treatment conducted, for he goes on to say, "In five days I visited her, and, much to my astonishment, found her engaged in making her bed." This female must have been a most extraordinary character, and the account given of her case is incredible in the extreme, so much so, that, so far as we know, it is believed only by the few who have lately come into the field as the champions of *Ovariotomy*, and who appear most anxious to have numerous companions in their credulity.

Dr Macdowall's second case is very briefly narrated; he found the ovary very much enlarged, painful to the touch, and adhering to the bladder and fundus uteri; by what means these adhesions were destroyed, we are not informed, but the patient, after having been considered hopeless from the loss of blood, eventually recovered. The details of Dr Macdowall's third case are also very meagre, indeed, we have not sufficient particulars given to enable us to judge whether it ought to be adduced for or against the operation.

It is a strange circumstance that the profession on this side the Atlantic was first made acquainted with the foregoing cases through the medium of Mr Lizars' treatise, eight or ten years after their occurrence; but they are said to have been published previously in a very imperfect form in America.

4th, Mr Lizars' cases: three successful! one fatal.—The first of the *successful* cases was brought to Mr Lizars by Dr Campbell, "with an abdomen as large as if in the ninth month of gestation." Mr Lizars very naturally was desirous of having his determination to operate sanctioned by some other surgeon or physician, besides his friend Dr Campbell; but, he says, "All whom I took to see the patient, and all to whom I sent her, said that the disease was an affection of the ovarium; but all of them condemned an operation." Nevertheless an operation was performed; the abdomen was laid open from "about two inches from the ensiform cartilage, to the crista of the os pubis," and in due course the operator, and his *staff* proceeded to search for, and ascertain the character and connections of the ovarian tumour; but, alas! for the fallibility of doctors in general, and of the physicians and surgeons who examined this case in particular, no tumour was found to exist—the ovaries and the uterus being perfectly normal. The cause of this very serious mistake was found to be "the great obesity and distended fulness of the intestines, together with some protrusion pubic of the spine at the lumbar vertebræ." The wound was stitched up, and after much suffering, the patient was able to leave her bed on the 14th day after the operation.

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[1] New Series, vol. iii. p. 416.

[2] Lizars' Observations on the Extraction of Diseased Ovaria, p. 4.

By what process of ratiocination, Mr Clay places the preceding in the category of *successful* cases, is to us incomprehensible. The object contemplated by the surgeon was, *the removal of a tumour*, and that not having been accomplished, how can the operation be termed a successful one? with more justice, the term *successful* may be applied to the operation of lithotomy, when the patient escapes with his life, although no calculus be removed. All that is proved by such cases is, that certain incisions *may* be made without fatal consequences.

In Mr Lizars' second case, an incision was made from the ensiform cartilage to the symphysis pubis, allowing 1½ gallons of fluid to escape from the abdominal cavity. One of the ovaries, the size of the uterus at the eighth or ninth month of gestation, was removed, but its fellow of the opposite side, which was found also enlarged "to nearly the size of the fourth part of the one removed," and adhering to the uterus and the parietes of the pelvis, was allowed to remain in *statu quo*, the surgeon's friends having begged him to desist from further operative procedure.

Mr Lizars, having laid the abdomen open in his third *successful* case, found "the blood-vessels of the omentum majus enormously enlarged, running on the surface, and into the substance of the tumour, which appeared an enlarged ovarium." In consequence of this unlooked-for difficulty, the removal was abandoned; but, for the purpose of ascertaining the character of the mass, punctures and incisions were made into it, and it was found to be of a solid, cartilaginous structure. The edges of the wound were brought together, and the patient put to bed:—the after consequences were very alarming, but on the 14th day after the operation, at which date the reports close, she was able to sit up in bed an hour each day.

Such then, is a very brief but faithful outline of Mr Lizars' three cases. In one, there was no disease of the uterine system discoverable; in another, only one of two diseased ovaria could be removed; and in the third, operative interference was abandoned, whenever the true character of the tumour was ascertained. When we first saw these cases placed by Mr Clay in the "successful" column, we felt the most unqualified astonishment, and we confess that feeling has not been lessened by a re-perusal of Mr Lizars' monograph, We are bound to believe that Mr Clay's sole object, in bringing these cases once more before the public, is to advance our common profession, and to afford information to those members who have entered its ranks since the *notoriety* of Mr Lizars' cases died away; if he has no more selfish view in their publication, we must in charity believe, that the table has been collated at third or fourth hand.

Mr Clay grants that one of Mr Lizars' patients died, (the third in succession operated on,) but he does not even make that concession without an attempt—a very futile one, certainly—to show, that the patient "had previously suffered from an attack of cholera which, with equal probability with the operation, might be considered as the cause of death." Such a statement makes us question more than ever, whether Mr Clay has read the cases of Mr Lizars in the original. We do not believe that any conscientious individual, conversant with the first principles of pathological anatomy, would have advanced such an averment, had he really perused the account of the dissection, which is recorded very clearly and distinctly by the operator. The abdomen contained flakes of coagulated lymph, and pus,—the intestines were glued together by recent adhesions,—and the peritoneum everywhere showed marks of inflammatory action, and at one spot, was even gangrenous. The cause of death is not therefore left to conjecture.

We now come to the consideration of Mr Clay's cases.

5th, Mr Clay's Cases: three successful! none fatal!

CASE 1. His first patient, Mrs Wheeler, aged 46, observed the lower part of her belly enlarged, three years before asking for his advice. The catamenia had always appeared regularly, and she had never felt any particular pain. He says—"At the time of her consulting me, she was much emaciated, tall in person, of a sallow countenance, and appeared as large as a female in the ninth month of gestation; menstruation was still regular; she complained of great weight and incumbrance, but had not suffered any particular pain."

The *major* operation was preferred. The abdomen was laid open from the ensiform cartilage to the pubes, and the tumour brought into view. Some slight adhesions existed about the pedicle, and also between the omentum and the upper part of the tumour, which were destroyed, and the pedicle secured with ligatures, and then divided: about 14 ounces of blood were lost. The patient made a very happy recovery. The tumour weighed 17 ℔s. 5 oz. apothecaries' weight: part of it was ulcerated. It consisted of one large and several small sacs, containing a glutinous substance, and of a solid tumour composed of still smaller cells, filled, some with pus, others with brain-like substance, the interstices being fibrous and cartilaginous, in some parts so hard as to injure the edge of the scalpel.

CASE 2. Elizabeth Beswick, aged 57, the mother of nine children; had been aware of the existence of a tumour for 10 months, Paracentesis abdominis was performed, and about 25½ ℔s. of fluid drawn off, after which an ovarian tumour, about 4 lbs. weight, was discovered in the left iliac region. She does not appear to have suffered except from the incumbrance and weight; "her health had generally been good: she was low in stature, and much emaciated within the last 6 or 8 months." When the abdomen was laid open, the operator was surprised to find the tumour adhering in every direction; for he and his friend had *diagnosed* such consequences only in the vicinity of the umbilicus. The adhesions were destroyed with the knife; the pedicle was secured with ligatures and separated. The operation lasted about ten minutes, and only 2 oz. of blood were lost. The patient recovered without a bad symptom.

The tumour "was composed of a white tough membranous bag, capable of holding about four pints, and a flattened, round, solid mass, the cells of which contained various matters from the consistence of pus to that of cerate, and of considerable variety in colour. The interstices of the cells were of a hard cartilaginous structure." Inside the membranous bag, hung a mass about the size of a hen's egg, like a portion of brain in the membranous expansion. The tumour was fixed to the parietes and intestines, by thick membranous bands.

CASE 3. Hannah Edge, aged 39, the mother of three children. Seven years before, immediately after the birth of her second child, she discovered a considerable enlargement at the lower part of her belly. Her general health had been good. Paracentesis abdominis was performed on the 3d November, and about 60 lbs. of dark glairy fluid removed. On the 8th November, ovariotomy was performed, but by some singular, and to us an inexplicable *lapsus pennæ*, we are not favoured with either the details of the operation, or of the after treatment, and no description of the anatomical character of the tumour is recorded. The report concludes as follows: "The extent and number of adhesions were such, that it appeared impossible they should be overcome, without effecting irreparable injury; and yet this case recovered more rapidly than any of the previous, and contrary to the expectations of every one present at the operation."

The preceding is a very succinct account of Mr Clay's three *successful* cases. The *third*, we may safely pass over, without note or comment, as the details which have been laid before the profession are altogether insufficient to enable us to form a correct notion of the real nature of the case. The patients in the first and second cases recovered; but still, we do not consider them entitled to be inserted in the catalogue of cases cured. The dissection of the tumour in both instances afforded abundant evidence that it was of a malignant character, and although the incisions healed up kindly, we are justified by the experience of the profession in similar cases, in asserting, that sooner or later, probably very soon, the diseased growth will reappear with increased virulence and activity.

The *immediate mortality* after operations for scirrhus is notoriously small, but what experienced surgeon in dismissing such patients with the cicatrices healed, would pronounce them *cured*, in the proper acceptation of the term? Mr Clay records two cases which proved fatal after the peritoneal section; but as the growths in these instances were solid and intimately attached to important viscera, he seems to think that they do not in any degree detract from the operation *for encysted ovarian tumours*, and consequently he has not considered it necessary to make any reference to them in the table of results which he gives. It is sufficient for us, that *an operation was undertaken* by a person who boasts sufficiently loudly of his tact in drawing the diagnostic line in such cases—that the peritoneal section was made without the removal of the tumours being effected, and that the patients perished, certainly after more suffering, and in a shorter period than if the result had been left to nature. It is no excuse for Mr Clay to say, that the importunities of the patient induced him to undertake the operation; we hold the patient to be no judge in such cases, and if the surgeon does not entertain a reasonable hope of affording relief, humanity demands that he should not put a fellow-being to the torture and imminent peril inseparable from such an operation. But without farther preface, we will give an outline of the two cases.

Case 1. Mrs Hardy, aged 47, had been labouring under an enlargement of the abdominal region for many years before consulting Mr Clay, but until four years ago, it did not increase rapidly; since that time its growth has been rapid, and she now measures forty-five inches in circumference at the umbilical region; she is subject to frequent very severe pains in her back and iliac regions. The patient was anxious to get rid of the disease, and Mr Clay says, " her importunities at length prevailed, and I somewhat reluctantly consented to operate." On laying open the abdomen, the mass was found everywhere firmly adherent, and it was at once evident to all present that to remove it was impracticable. For the purpose of attempting to diminish the bulk of the tumour, it was pierced in various places by a fine stiletto, when only a jet of blood issued from each puncture. The wound was dressed, and the patient did tolerably well till the 4th day, when swelling and pain of the left leg ensued, and the limb assumed the appearance of phlegmasia dolens; she died on the morning of the 6th day. No dissection was permitted, but Mr Clay attributes the fatal attack to the ill-judged kindness of the woman's husband, who had given her some gin and garlic on the morning of the 5th day after the operation. Mr Clay thinks that the result would have been favourable, " had not indulgences been resorted to of a character incompatible with recovery." We confess we entertain the opinion that an incision *from sternum to pubes* is a much more likely cause of the symptoms and the result, than a little gin and garlic, an indulgence to which she was accustomed.

CASE 2. The details of this case are very brief. The patient was 45 years of age, and the abdomen was as large as at the 8th month of utero-gestation. The tumour had a hard, and lobulated feel; no fluctuation could be anywhere detected, but it seemed to have contracted no adhesions. An incision 13 inches in length, was quickly made, and a tumour of a bright pink colour, and as hard as a piece of liver, was brought into view; it had no connections with the parietes of the abdomen, but was firmly adherent to both Fallopian tubes, and the body of the uterus. Its uterine adhesions were surrounded with ligatures, and it was then removed. A state of syncope had supervened before the completion of the operation, and some hæmorrhage from the divided vessels continued, notwithstanding the ligatures; she expired within an hour and a half of the removal of the tumour.

We have now drawn our notice of Mr Clay's cases and his statistics to a close, but we cannot leave the subject without remarking, that we do not recollect of having met, in the compass of the same number of pages, so many specimens of egotism and dogmatic assumption, as are to be met with in this pamphlet; if he is desirous of advancing the prospects of *Ovariotomy*, we recommend him to be more guarded in his assertions. Juniors may take for granted his statement, that, " if the age be not too advanced, I believe the cases I have here given will fully prove, that neither extent of adhesions, size of tumour, ascitic deposit, worn constitution, nor peritoneal inflammation, should prevent extirpation being performed," and that " pain, after operation, is *always* controllable by a grain of mur. morphia," but will those who have some experience in operative surgery give the same willing assent? If we are not mistaken, the operator himself will answer in the negative, for the following passages will show, that like every other person who cannot get others to think as he does, or act as he bids them, he is already beginning to look on himself as a *martyr*. " It is my intention to persevere in this operation until I have produced sufficient evidence to establish a legitimate operation of British (as it is already of foreign) surgery, or until I discover enough to condemn it. In accomplishing this, (*the establishment or condemnation?*) I shall find much greater difficulty in overcoming the feeling of reluctance generally manifested by the profession towards any new and bold step (though supported by numerous proofs,) than I shall in meeting with condemnation for the unfortunate result of some one or two isolated cases, which in no way affects the principle of the operation, but affords arguments to those who are prejudiced against its being adopted as a legitimate means of relief. In this, however, I am not singular, having met with the most virulent opposition for many years, to doctrines since acknowledged to be founded on truth. Jenner's discoveries were as strongly opposed, and as firmly admitted, subsequently. Cullen's views were attempted to be driven out of the pale of the professional inquirer, by the numerous followers of Brown. For stepping beyond his colleagues, Liston had to seek shelter under other than his native skies. And lastly, the very operation which I have had the honour to introduce into English surgery, was used as a means to cry down the talents of that eminent surgeon, Lizars of Edinburgh; and the advocacy of similar views by the talented Blundell, brought the battery of the illiberal part of the profession against him. This is not a healthy condition of medical society in the British dominions. The vaunted liberality of the medical profession, from Hippocrates down to the present day, is more a matter of history and conjecture than reality. Men practising the profession, not content with the limited views just enough to enable them to make a living by their exertions, but putting forth their energies and endeavouring to improve the principles and practice of the science, may and ought to expect the envy of their professional brethren; but this should be entirely apart from an illiberal and uncharitable expression of feeling. In this, our continental brethren are our superiors; the spirit of emulation is more generally encouraged; and the spirit of detraction less practised by them—combining together rather to assist the advancement of science, than throw obstacles in the way of such advancement. These remarks may appear uncalled for; but this illiberality has already put forth its ugly head, in respect to myself; and it is necessary to apprise the profession of such principles, that every man who has the love of his profession at heart, looks upon them as *incapables*, or '*standstills*,' as Dr Blundell justly called them,—"men whose opinions will never reach posterity."

If Mr Clay's name reaches posterity through the instrumentality of these cases, the science of surgery is destined to retrograde.

The first only of the following cases is inserted in Mr Clay's table; the others have been given to the public since the appearance of his pamphlet, and, so far as we know, they are all that have been recently recorded.

6th, Mr Walne's cases.

CASE 1. Mr Walne's first patient was 58 years of age, the mother of five children, and had the appearance of a person at the full period of pregnancy, "though it (the tumour) caused her no pain, and was, indeed, only an incumbrance, and made her unpleasantly remarkable." An incision was made, and a tumour, sixteen pounds in weight, removed; no adhesions interfering. A ligature was applied around the circumference of the pedicle, and the wound dressed with sutures and adhesive plaster. After the operation, she suffered much pain and uneasiness, but her condition became most critical on the fifth day; the following is part of the report, "tongue dark brown, and much coated, her manner drowsy, and her mind at times confused, constant nausea, occasional vomiting, and frequent hiccup, with pain at the navel, &c." For some time her condition was very alarming, but a change for the better eventually took place, and the ligature which surrounded the pedicle came away about ten weeks after the operation. The tumour contained fluid in several cysts, and a part of it, about the size of two fists, had a scirrhous hardness.

Case 2. His second patient was a widow, 57 years of age, who had observed herself to be larger on the left than on the right side, for 16 years. When seen by Mr Walne, "she had the appearance of a healthy person of spare habit, and the size of a woman eight months advanced in pregnancy. There was distinct fluctuation, and dull sound over the greater part of the abdomen, with a circumscribed character of tumefaction. A sense of dragging about the cartilages of the ribs, chiefly of the right side, was her principal uneasiness. An incision about twelve inches in length was made into the abdomen, and a tumour more solid than in the former case, and weighing sixteen pounds and three quarters imperial weight, was removed, and the wound dressed in the usual manner. For some days afterwards, the patient complained only of sickness, uneasiness, and occasional pain; but on the eighth day, the symptoms became more aggravated, and for several days thereafter, her life was in the greatest jeopardy; but the reports during this period are much more meagre, than when the progress of the case was favourable. Convalescence was not complete, nor had the ligatures round the pedicle separated when the reports terminate, circumstances which show how very anxious the sanguine operator was to give the public the benefit of the case.

Case 3. Mr Walne's third patient was a young lady, not quite 20 years of age. The swelling had been observed for years previous. On examination, he found the abdomen as prominent as at the full period of utero-gestation, and "the health in all respects good." The patient was determined to submit to any operation, sooner than bear the annoyance which her size created. An incision was made, 14 inches in length, and extending from the ensiform cartilage to the pubes, and a tumour, weighing 28 pounds, was brought into view; no adhesions existed, and a ligature was passed round the pedicle, and the mass removed. She bore the operation well; the after symptoms were mild, and the recovery rapid. The tumour consisted of a single cyst, and a moderate portion of solid matter, in a highly vascular condition.

7th, Mr Southam's Case.—Mr Southam's patient was 37 years of age, the mother of six children. The disease was upwards of two years' standing; and when examined by Mr S., there was a circumscribed tumour, about the size of the fœtal head at the full term, and very moveable, under the integuments. The patient complained of pain in the abdomen, especially on the right side, increased when in the recumbent position; her bowels were constipated; the catamenia regular; and the general health apparently but little affected. Every thing being prepared for the operation, an incision nine inches in length was made into the abdomen, when about four quarts of straw-coloured ascitic fluid escaped, and the tumour became exposed. The omentum being firmly adherent to it in the upper part, required to be carefully dissected away; the pedicle was then secured with a ligature, and the tumour removed. Not more than three ounces of blood were lost.

For five or six days succeeding the operation, the patient's sufferings were extreme, and the danger of life imminent. One report will show the nature of the symptoms: "10 P.M. (of the second day) very low; countenance anxious, and eyes much sunk; pulse 140, thready; tongue beginning to assume a morbid redness at the edges, white and dry in the centre; had no evacuation; the abdomen still tympanitic."

An improvement of the symptoms gradually ensued, and on the twenty-third day, when the last report was taken, it is stated: "continues to proceed favourably."

The tumour weighed 4 lbs. 12 oz.; it was composed of solid matter, and several cysts, which varied in size, and gave it a lobulated appearance externally. The solid portion was most prevalent in the vicinity of the pedicle. The natural structure of the ovary was completely destroyed, and the tumour afforded an excellent specimen of cystic sarcoma.

8th, Mr Key's Case.—Mr Key's case was a girl of 19 years of age, who had first observed her abdomen to increase in size fifteen months before admission into Guy's Hospital. The tumour appeared to increase rapidly; in her own words "filling up her abdomen, and pressing upwards into her chest;" and her health was impaired. The girl and her parents having given their consent to the operation, an incision was made into the abdomen, and the tumour, which had contracted no adhesions, was exposed. The broad ligament was firmly secured with a ligature, and the mass removed without any hæmorrhage. Some dirty-coloured ascitic fluid escaped from the abdomen, both before and after the removal of the tumour. The incised surfaces were brought together by interrupted sutures, and adhesive plaster. She had a slight rigor on the second, and died on the fifth day. On dissection, marks of recent inflammation, effusion of coagulable lymph, &c., were observed over the whole of the peritoneal sac.

The tumour weighed 24 lbs. "The parietes were generally not much thicker than a crown-piece, and were internally streaked in parts. Some of the cysts were as large as a small orange; and numerous other cysts, of varying size, were densely grouped together; the larger of these accurately enclosed others of smaller size, &c. &c."

Mr Key seems to think that the age and temperament of his patient materially contributed to the fatal termination.

We have found a number of cases in which the ovaries were removed by surgical means, scattered through the periodical literature;

these we intended to have given some account of, but this notice has already so far exceeded our limits, that we must content ourselves with simply stating the results of a few when considering the objections.

It is not our object to enter fully into the consideration of the objections which may be urged against Ovariotomy. These must have suggested themselves to every reader, who has had the patience to follow us in our analysis of the cases; but we may be allowed to refer to a few of the principal.

1*st*, *The difficulty of forming a Diagnosis in cases of Ovarian disease.*—The impossibility of ascertaining either the existence of any disease of the ovaries, the real character of such disease, or the adhesions or connections which it may have originally held, or have formed during the progress of its growth, has been freely granted by every experienced physician and surgeon who has directed his attention to the subject, and is also made abundantly manifest by the cases of extirpation which have been recently recorded. In the first of Mr Lizars' cases no tumour existed, and the same mistake was committed by Dohlhoff of Germany, and Dr King of Saxmundham. Mr Lizars in one case, Drs Granville, Dieffenbach, and Martini, also in one each, and Mr Clay in two instances, laid open the abdomen, and were forced to desist from further operative procedure, in consequence of the connexions which the mass had formed.[1] In many of the cases adhesions existed which were not suspected before the operation.

2*d*, *The danger of Hæmorrhage.*—The extent to which the incisions must be carried, and the adhesions which must be destroyed in many cases before the tumours can be removed, would lead us, *a priori*, to dread the consequences of loss of blood. In Dr M'Dowall's third case the patient nearly lost her life from the loss of blood. In Mr Lizars' second case, hæmorrhage occurred two hours after the operation, so profusely, as to make the attendants give up all hope of a favourable result; and in Mr Clay's fifth case, the loss of blood was considerable, and the patient expired an hour and a half after the completion of the operation.[2]

3*d*, *Danger of Peritonitis.*—Some of the recent writers treat very lightly of the risk of inflammation following the peritoneal section, but Mr Lizars' third case proved fatal from this cause; in all probability, Mr Clay's fourth case also, but no dissection took place; likewise one recorded by Dr Granville in the *Medical Gazette*, during the present year; and, lastly, Mr Key's.

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[1] Part was removed in one of these.

[2] Since this went to press, Mr W. A. M. Heath, Lecturer on Midwifery in the Manchester School of Medicine and Surgery, has narrated a case, in the *Medical Gazette*, which proves the correctness of the remarks made above. His patient, a woman 46 years of age, had observed her bulk to be increased twelve months previous. He says, "after repeated examinations, and most careful manipulations, by myself and colleagues, made at different times, and in every variety of manner, the conclusion arrived at was the presence of an ovarian tumour; and it was our UNANIMOUS OPINION, that the condition of the patient, and the mobility of the tumour, made it a fair case for extirpation by the abdominal section." The operation was performed at 11 o'clock A.M., on the 21st November. It consisted of an incision from the ensiform cartilage to the pubes, and "the tumour now came into view, and was recognised as the uterus distended by solid matter." It was removed; the patient sunk, and died at 5 o'clock on the following morning. The growth consisted of the fibrous or hard tumour of the uterus.

4th, The nature of the disease does not sanction such a violent remedy.—In a large proportion of cases, the tumour constituted a mere *incumbrance;* indeed, it is distinctly so stated in almost every case. The patients might therefore have lived the natural period of their lives without having suffered a tithe of the torture they had to suffer during the performance of the operation, and the protracted convalescence.

In conclusion, leaving altogether out of sight the immediate and imminent danger to which they were exposed, it must be remembered that all the recent *successful* (?) cases were published very shortly after the operations were performed, and before a sufficient length of time had transpired to test the permanency of the cure; and it must be also borne in mind, that the tumours contained far more solid brain-like matter than is usually met with in simple encysted ovarian tumours, affording too good grounds for suspecting the re-appearance of a specific disease.

Essay on the Physiognomy of Serpents. By H. SCHLEGEL, *Doctor in Philosophy, Conservator of the Museum of the Netherlands, &c. &c. Translated by* THOMAS STEWART TRAILL, M.D., F.R.S.E., *Regius Professor of Medical Jurisprudence in the University of Edinburgh.* Pp. 254. Post 8vo, plates. Edinburgh: Maclachlan, Stewart, and Co. 1843.

Researches on Ophiology have never been prosecuted to any extent in this country, and restricting our remark to published works, we may safely add, that this is a neglected branch of Natural History. The entire work of M. Schlegel on serpents, contains a store of useful information, scientifically arranged, his plates and other illustrations rendering an otherwise complicated system both instructing and interesting. The translator has in a spirited manner republished the *general* part of this author's work, giving the anatomical characters of serpents, including a description of each internal viscus, and of each organ of sense. The varieties of serpents, their propagation, development, and habitudes, are separately considered, and full details given on the existing difference between harmless and poisonous species, the latter being to the former in the proportion of one to five. Not the least interesting part of the translator's work is the geographical distribution of *venomous* serpents, addressed to the eye, by means of a well engraved map.

As a specimen of this work, we subjoin the following interesting extract on the

Development and Propagation of Serpents.

"The *young*, on leaving the egg, usually differ from their parents, besides their size, by a system of colouring more vivid and more contrasted, by a head more blunt and more rounded, by the largeness of the eyes, and by the less perfect state of the epidermis and its appendages. They are, however, provided with teeth perfectly resembling those of the adult, of which they are ready to make use; and the venomous kinds, instructed by instinct with the power of their weapons, alternately elevate and lower their fangs, and defend themselves against attacks, with that fury which is innate in their race. It was long believed, that the tail of the young was shorter in proportion to the trunk than in the adult, and that this member presented consequently in them a smaller number of subcaudal plates. If this were the case, we must suppose that new plates develope themselves with age; but as the number of plates corresponds to the number of vertebræ, we must equally suppose the production of new osseous pieces, as is seen in the Julus,—a circumstance little probable in animals so high in the scale of being as those of whom we treat. Besides, the researches which I have made on this subject have proved the contrary; since among a great many individuals, the young did not show any difference from the adults in the number of plates, but what might be considered as accidental. To be sure of the fact, I have repeated these observations on a great number of the most dissimilar species, and have always obtained the same results.

"Shortly after their birth, the young Ophidians undergo their first moult. This operation is repeated in our climate, according to the observations of Lenz, five times in the year, viz., every month from the end of April, to the beginning of September; whence it results, that there is no casting of the skin during the hybernation. It would be very interesting to know how many moults serpents undergo in warm climates, where the state of sleep does not take place. A state of domesticity, a mode of life little natural to these animals, remarkably influences the functions of the skin, the epidermis of which does not renew itself in fixed and determinate periods; frequently this operation is very long, and so painful that the animal suffers much, or it is sometimes followed by death. In order to reject the old epidermis, which begins to detach itself at the head, and especially along the borders of the lips, the serpent passes itself through mosses, grasses, or heaths, and contrives, by means of slow and continued movements or frictions, to disengage gradually the exterior layer of the skin, which is already replaced below by a new epidermis. The spoils thus removed, are found inverted from one end to the other, forming a sac with a reticulated surface more or less diaphanous, more wide than the body of the snake, because of the dilatation of the membraneous intervals, and presenting, with the exception of those of the mouth and the nostrils, no other orifice than the anus; for it is well known that the hemispherical membrane which protects exteriorly the globe of the eye, is part of the integuments, and comes off along with the rejected skin. This skin, at first soft, soon dries, and is easily preserved in cabinets; but it is rare to find it entire, because it is often torn in the operation we have described. We possess some specimens of several foreign species, which prove that the moulting is produced in the same manner in all serpents." Pp. 93, 94.

Dr Traill's excellent translation well displays his extended information, his varied accomplishments, and great mental pliability. Much occupied, as he certainly is, with a Chemistry course in tho University, and discharging also a large share of duty connected with several scientific societies, he has nevertheless found time to prepare for the press this most useful addition to our information on serpents.

PART THIRD.

PERISCOPE.

PRACTICE OF PHYSIC AND PATHOLOGY.

EXTRACTS FROM A WORK, ENTITLED "NATURAL HISTORY, PATHOLOGY, AND TREATMENT, OF THE EPIDEMIC FEVER AT PRESENT PREVAILING IN EDINBURGH, AND OTHER TOWNS." BY DR CORMACK.

OBJECT OF THE WORK.

"The main object, in what follows, is to present a faithful account of the Natural History and Pathology of the prevailing epidemic, along with such details of the Treatment followed, as appear to be of practical importance. Every fact stated, is put forth, almost in the very words in which it was noted down at the moment of observation,—a practice, which ought to be considered imperative on all, who venture to lay the result of their experience before the profession. It cannot be denied, that great hindrance has accrued to the improvement of the science of medicine, from physicians describing the phenomena of disease, and the supposed effects of remedies, from general impressions remaining in their minds, after the lapse of hours, days, weeks, or even longer intervals,—in place of founding their statements upon an analysis of facts committed to paper, at the very time that they were being observed, at the bedside of the living patient, or at the dissection of the dead. Neglect of this somewhat irksome, but only safe system of recording medical experience, has proved one of the most fruitful sources of discrepancy among us, regarding the natural history of diseases, and the selection of therapeutic agents for their treatment. It is in consequence of such laxity, as often as from dishonesty, that facts are changed, in order to harmonize with theories. 'When the mind,' says Bacon, 'is once pleased with certain things, it draws all others to consent and go along with them; and though the power and number of instances that make for the contrary are greater, yet it either attends not to them, or despises them; or else, removes and rejects by a distinction, with a strong and pernicious prejudice, to maintain the authority of its first choice inviolate.'" Pp. 1, 2.

ORDINARY, OR MODERATELY CONGESTIVE FORM OF THE DISEASE.

"In ordinary cases, the countenance of the patient has a peculiar appearance, which we may designate *bronzed*, for want of a better term. Though no words can accurately convey what is thus attempted to be described, the appearance itself is very characteristic, and has never failed to arrest and interest the medical visitors to the hospital, to whom it has been pointed out.

"The symptoms of invasion are in all cases remarkably similar, both as to their nature, and order of occurrence.

"The patient is first seized with coldness, rigors, headach, pain in the back, and more or less prostration of strength; but the latter symptom, it must be remarked, is often not at all urgent, many walking long distances from the country to the hospital, especially during the first days of the disease; and a still greater number of the destitute town patients lounge about the streets after their seizure, and come in to us on their legs.

"After a period, varying from less than half an hour to several hours, the cold fit terminates, when the severity of the headach greatly increases, and a dry burning heat comes over the whole body, accompanied by much thirst and general uneasiness.

"The hot stage is succeeded by a sweat, usually very profuse, continuing for a number of hours, and seldom attended or followed by any relief to the headach or other pains.

"Sometimes, though rarely, there is no sweating for two or three days after the seizure. Occasionally also, there is no well-marked hot stage between the cold and the sweating fits; and in at least a few cases, the sweat breaks out on the face and upper part of the body, whilst the patient is yet in his initiatory rigors.

"It is proper to remark, that during the whole course of the disorder, the perspiration has a characteristic disagreeable smell, and is decidedly acid, as is proved by its reddening litmus paper, and that sometimes with intensity.

"During the three stages of the initiatory paroxysm, the pulse is rapid, being sometimes as high as 150, seldom below 90, and commonly ranging between 90 and 120. During the rigors, in several cases, I have found it very wiry and tremulous; in the hot stage it is often hard, and not very easily compressed; at the sweating period, it becomes fuller and softer and does not exhibit that deficiency in strength, shown after, and during the perspirations of a more advanced period of the fever.

"For the first forty-eight hours, the tongue commonly continues moist, exhibiting at the same time a white or brownish yellow fur, excepting at the point, where there is usually a clear space, extending over a space, often (as in *typhus abdominalis*) shaped liked a triangle, the extremity of the tongue forming the base. Afterwards, the tongue becomes dry, and longitudinally streaked on the centre with brown, in which state it continues till the approach or arrival of the crisis, at from the third to the ninth, but in the majority of cases, on the fifth day.

"During the first four days, some of the patients have occasional short rigors; but most commonly, they are in a state of dry ardent fever, with occasional sweatings. These sweatings occur, or at all events, commence in most cases, between two and nine A.M.; but to this rule, there are many exceptions. In a considerable proportion, even of the ordinary and mild cases, nausea and vomiting usher in and attend the sufferings of the first days. Pain at the scrobiculus cordis generally accompanies these symptoms; not unfrequently, it is present without them. A symptom which uniformly occurs during the first four days, is severe muscular and articular pain. General uneasiness, or pain in the abdomen, (but particularly above the pubes, and over the liver and spleen, when pressure is made on these regions,) are very commonly, but by no means uniformly met with.

"So long as the patients suffer much from the symptoms now described, they sleep badly, and frequently not at all, unless opiates are administered. The severe pains in the joints and muscles are often sufficient to account for the bad nights complained of; but even with those who do not suffer much from this cause, sleeplessness is a distressing symptom up to the crisis.

"A remission on the third day is very common. It occurred in all the cases which I have had an opportunity of attentively observing from the invasion onwards.

"On or about the fifth day, there is an evident manifestation of the violence of the disorder being expended; and this change for the better is often very sudden and complete. One day, we hear the patient moaning and groaning in pain; and on the next, he is at ease and cheerful, his only complaints being of hunger and weakness. This state is generally ushered in by a copious sweat; or by epistaxis or diarrhœa. The sweating was by far the most common critical evacuation till the beginning of October, when diarrhœa and dysentery, formerly rare occurrences, became common; and at the present time (October 30) they are as usual as sweating. After this change, the pulse, tongue, and skin are quite natural; and the facial bronzing often becomes much less striking. For several days, or till about the fourteenth or fifteenth day of the disease, there is a period of intermission, during which a great deal of lost strength is regained, and a steady improvement goes on in all respects.

"On, or about the fourteenth or fifteenth day from the beginning of the disease, the patient relapses; or, in other words, has a paroxysm of fever, similar to that which began his first attack. The relapse takes place late or early, just according to the date of the first convalescence, as will be clearly seen from all the cases to be detailed. It sometimes happens, that the onset and progress of the second attack is attended by severer, and at other times, by milder symptoms than those of the first. In the relapse, the abortions most commonly take place. In it also, the muscular and articular pains are very often most severe. Cases, which in the first attack were strictly mild and ordinary, have in the second, become signalized by jaundice, delirium, diarrhœa, dysentery, and other grave symptoms. Such occurrences are, however, not common.

"A large number of patients have a second and generally mild relapse, on or about the 21st day. As these relapses take place often after dismissal from the hospital, it was some time before I discovered the frequency of third attacks.

"In those who are young and of good constitution, the convalescence is rapid and complete. In the old and debilitated, it is otherwise; but I have never seen any one, old or young, die of the ordinary form of the fever." Pp. 3–6.

HIGHLY CONGESTIVE FORM OF THE DISEASE.

"Although many of the cases issuing in death, or characterized by extreme severity, present symptoms very different from those hitherto detailed, there can be no doubt, that the disease is essentially the same, the difference being one only of degree, as will be more specially unfolded hereafter. Both forms are undoubtedly the result of the same morbid poison.

"One of the most common symptoms in the highly congestive form of the disease, is yellowness of the conjunctivæ, and of the whole surface of the body. It generally appears between the third and seventh day, and is always most intense on the face, neck, chest, abdomen, and thighs. The hue of the neck and chest is the most vivid; then comes, of equal, or nearly equal brightness, the abdomen; then, somewhat fainter, the thighs; then, considerably paler still, the legs, arms, and fore-arms; the hands and feet get their colour later, always to a much less extent, and sometimes not at all. The yellowness occasionally appears during the relapse, and not in the first attack. I have seen it present in both.

"Associated with the yellowness, there are generally depression, less or more delirium, dusky, and often porter-coloured urine, black melæna-like stools, and hæmorrhages from some of the mucous membranes. In the worst of the cases, black coffee-ground-like matter is ejected from the stomach, and passed per anum.

"In some cases, the black vomit occurs without the yellowness; and, on the other hand, at the autopsy of yellow patients who have had no black vomit, this matter has been found in the stomach, and other parts of the alimentary canal.

"Enlarged liver and spleen, and tender and tympanitic abdomen are less constant, but still very usual symptoms in cases characterized by yellowness or extreme congestion. Difficult micturition has been complained of by several of my yellow and purple patients.

"A deep persistent purple colour of the face, appearing before, or immediately after the invasion of the disease, is a certain prognostic of danger, and is seldom absent in those destined to be yellow. Since I first made this observation, it has received, among others, two notable verifications in the cases of my assistant, Dr Heude, and Mary Wallace, one of the nurses. Dr Heude I pointed out to my other assistant, Mr Reid, as deeply purple at noon, when we were engaged with the visit:—at 3 P.M. he was in the initial paroxysm of the fever. Mr Reid and I remarked Mary Wallace becoming first bronzed, and at last purple, before she was laid up, and in consequence advised her to take the chloinated solution, which she did not do. Both became yellow, and both narrowly escaped with their lives.

"With the exception of the purple countenance, the symptoms which usher in the congestive form of the disease, differ little from those attending the disorder in its milder degree. As has already been remarked, there is some considerable difference in the cases as to the time at which the yellowness appears.

"Generally, in the severe cases, there is merely a remission about the seventh day, but no intermission; and even in those who died a few days later, a slight amendment was noticed about the usually critical period." Pp. 23, 24.

PATHOLOGY OF THE DISEASE.

"The present epidemic possesses positive and negative characters, strikingly distinguishing it from the fever which generally prevails in Edinburgh, viz.—

"1. *The sudden and violent invasion of the disease.*—2. *Bronzing, leadening, or purpling of the countenance before and after seizure.*—3. *The almost uniform occurrence of one or more relapses.*—4. *The unusual number of cases with yellow skin, black vomit, and hæmorrhage.*—5. *The short duration of the pyrexial state, and its mode of termination.*—6. *The severe muscular and articular pain.*—7. *The rosy, elliptical eruption resembling measles is absent in almost every case in the present epidemic.*

"Whilst these are the principal characters which distinguish the two epidemics, they also exhibit other marked differences; for instance, in that which now prevails,

"8. *Severe vomiting is much more common; as are likewise gastric, gastro-hepatic, gastro-splenic, and gastro-enteric symptoms.* P. 84.

Dr Cormack fully illustrates these eight distinctive characters. We have only room to quote what is said under the two last heads.

"*The rosy elliptical eruption resembling measles is absent in almost every case in the present epidemic.*—Certainly, one of the most remarkable distinctions between the symptoms of the epidemic which now prevails, and that which has been common in Edinburgh for a number of years past, is the absence, with some rare exceptions, of the rosy, elliptical, and elevated spots resembling measles, which disappear on pressure, and return when the pressure is removed. At the time when Dr Alison published his short account of the present epidemic, he had not met with any cases of the new, or 'short fever,' as he terms it, in which measly eruption was seen, a circumstance not at all remarkable, considering the early date of his paper, and the extreme rarity of this occurrence. The early date of Dr Craigie's paper also accounts for his making an even stronger statement on this subject, viz.,—'no eruption of spots is observed similar to that observed in genuine typhus.'" Pp. 103, 104.

"While the almost universal absence of the typhoid eruption presents an obvious difference between the phenomena of the ordinary and present epidemics, yet, its occasional presence suggests to us the important inquiry, whether the two fevers, though apparently so different, are not the results of modifications of the same morbid poison?

"On this subject Dr Alison remarks: 'It is a curious and interesting question, whether this kind of fever has proceeded from the same poison as the usual typoid fever of Edinburgh, or is truly a separate disease? It is quite certain, that the one has succeeded the other, within narrow limits, both of time and space, in different parts of the town; and I have seen two instances, in which strictly typhoid cases, with the characteristic eruption, have been brought in from the same rooms, in which a succession of the milder cases have occurred at the same time. But, on the other hand, I am aware of several cases, carefully investigated by my friend and colleague, Dr Henderson, in which a succession of protracted typhoid cases has been traced to one room, while all the cases in the neighbourhood have been of the mild and short fever. And one man under my care, after passing through a protracted typhus, with the characteristic eruption, and threatening of ulceration of the bowels, relapsed, with the symptoms of the usual epidemic, of which cases were lying beside him, and had the usual crisis, and second relapse,—so that he might be said to have gone through both diseases in their present form, before leaving the ward.'

" We find the ordinary eruptive typhus driven from the field;—the present form of fever gradually springing up as the other decreased. I am aware, that it has been alleged, in conversation, by some physicians, that the few cases which have presented the rose-red fever eruption did not relapse,—were of the continued type,—and, in fact, were cases of a different disease. To this opinion, I was also at first strongly inclined, more especially, as it was currently alleged, that these cases could be traced to *foci* of contagion, where the same form of the disease prevailed. This opinion, however, is not tenable. It may be true that the cases of what are termed ' true typhus,' come pretty generally from the same houses; but then, do they not come also from the same families? May it not be peculiarity of constitution in these individuals, which determines this particular manifestation of the morbid poison? Though the constitution of an epidemic gives to it a character, yet idiosyncrasy causes families and individuals to be affected differently from the generality of persons. Who will maintain that the scarlatina poison does not produce mild cases, without sore throat and eruption, as well as those with one or both of these characters?

Now, no person who saw the rosy spots in the case of Mary Wallace, *on their first eruption*, could say, that it was not the true measly typhus eruption; and yet, the bronzing, purpling, and jaundice, along with the urgent vomiting, rheumatic pains, and the relapse at the usual period, proclaimed unequivocally, that she was afflicted with the prevailing epidemic; or rather, perhaps, a sort of bastard between the two forms of fever. She took the fever in the hospital, where, at the time of her seizure, there was not a single case that either had, or had had typhus eruption. Facts are wanting, to enable us to speculate with advantage upon the question, as to whether all of those occasional cases with eruption proceed from the same poison as those without it; but this, at all events, can be stated, that *there is such a thing as persons being occasionally affected with the measly eruption, in addition to the usual symptoms of the present fever;* such persons, moreover, apparently getting the disease from a contagious poison evolved from, or generated by persons congregated together, affected only with the prevailing form of the fever.

" When I commenced the observation and study of the present fever, and indeed for a considerable time afterward, I regarded it as *essentially and totally* different from typhus; but recent circumstances, and more matured weighing of evidence, have greatly modified this opinion. In the case of Mary Wallace, a bastard fever was distinctly recognised; and as the season advanced, all the cases have been more characterised by depression and general typhoid symptoms. The cases of continued fever, with and without measly eruption, are becoming more common in Edinburgh, and also in Glasgow, as Dr Weir of the Hospital there informs me.

" If some think, that on this point there has been exhibited an undue reluctance to enter fully upon an important pathological inquiry, I beg to remind them that data are yet wanting to entitle us to discuss it fairly, and with profit. This may be attempted in a subsequent publication, at the close of the epidemic; in the mean time let the remark of Rousseau be remembered, that ' the truth is in the facts, and not in the mind which observes them;' and it is hoped, that some important facts have been even here communicated as contributions to this part of the pathology of the fever.

" *Severe vomiting is much more common, as are likewise gastric, gastro-hepatic, gastro-splenic, and gastro-enteric symptoms.*—Even in the mild cases, more or less pain of the epigastrium and vomiting are general symptoms. They have been urgent in the majority of those whom I have treated, both in the New Fever Hospital, and subsequently in the Infirmary. They have not always gone together; and even in some fatal cases, in which the black vomit occurred, there was no pain or tenderness of the epigastrium.

" In the mild cases, the matters vomited are generally the ingesta tinged with green, of various degrees of intensity. If the patient drinks incessantly, which is usual, the deepness of the green is less intense, from the immense quantity of fluid which is constantly being taken into, and at once ejected from the stomach, diluting the colouring matter; for it is very common for every thing, as soon as swallowed, to be discharged.

"In the most malignant of the yellow cases, there is sometimes a fine inky sediment in the vomit; at other times the grounds are grumous,—in consistence, like the thick part of hare soup, and varying in colour from dark-brown to black. In a fatal case which occurred to me the other day, there was a thick matter at the bottom of the vessel, resembling the dark-green mud which collects in pools of stagnant water. Upon repeatedly washing this sediment with water, the green colour was almost removed, and what remained was like the grounds of hare soup.

"The grumous matter of the black vomit, in its various forms, is unquestionably blood extravasated from the capillaries of the stomach, and chemically altered by the action of the acids of the stomach upon it. That the black vomit is altered blood, has been again and again demonstrated at our autopsies, by tracing it to the sources of its extravasation, and finding large clots of blood in the submucous cellular tissue of other parts of the intestines in the same cases. The black colour is probably produced by chemical action between the acids of the stomach, and the iron of the blood." Pp. 103-8.

"What is said by Blane, of the affection of the stomach and vomiting in the yellow fever of tropical climates, applies to our present yellow cases. 'In all stages,' says he, 'of this disease, it is the affection of the stomach that affords the most distinguishing and important symptoms. As it advances, an unconquerable irritability of this organ comes on. Whatever is swallowed, whether solid or fluid, of whatever quantity or quality, is immediately rejected by vomiting. An almost incessant retching takes place, even without any extraneous irritation, which commonly on the third day ends in what is called the *black vomit*, the most hopeless of all the symptoms attending it.'

"The acute pain which many patients complain of, when pressure is made over the stomach and duodenum, seems, in the majority of cases, to depend on flatulence alone. At all events, when accompanied by gaseous distention, which it generally is, I have found far more advantage derived from turpentine enemata, carminatives, and fomentations, than from leeches.

"*Fulness of the liver* has been noticed during life, in several cases; but not so frequently as the same affection of the spleen.

"*Congestion of the spleen* has occurred in a considerable number of cases. From the great enlargement of the organ, and the pain which the slightest pressure over it excited, I at first treated the affection as acute splenitis, but more careful consideration has now induced me to regard it simply as a congestive affection; especially from the enlarged spleens which I have had an opportunity of examining after the death of the patients, presenting congestion only. The enormous congestion of this organ has as little to do with inflammation, as any of the other congestions met with in the fever." Pp. 108-9.

"*Gastro-enteric symptoms* are, in general, obviously referable to the congested and irritated state of the mucous membrane of the stomach and bowels. There seems good reason, also, to believe, that in many cases they are aggravated by loose clots of effused blood, and the vitiated secretions themselves, which acting as foreign bodies, tend still farther to increase the irritation. This accounts, probably, for the protracted diarrhœa in some severe cases which recovered. Much of the pain, however, which is complained of in the bowels arises from gaseous distension: we see it occurring, in some of the mildest cases, to a great extent.

"A few other of the most important points in the pathology of the disease must be noticed. Those to which it is proposed to advert, are,

"*1st*, The state of the blood.

"*2d*, The origin and mode of propagation.

"*3d*, The structural lesions caused by the fever.

"1. *The state of the blood.*—There seems good reason to believe, that a number of individuals, who do not actually succumb under the influence of the epidemic, are nevertheless affected by it in a marked and characteristic manner, such as by slight chills and sweatings, some headach and vomiting, with prostration of strength. . . . .

"That the blood really is in a dissolved state, was made perfectly manifest to us, *first*, by the imperfect coagulation which it underwent when drawn from the veins of patients, a homogeneous spongy mass being formed, in place of a firm fibrinous clot, with a supernatent serosity; *second*, by the ecchymosis which was uniformly observed to surround flea-bites or other slight injuries of the skin; *third*, the frequent occurrence of purpurous spots; *fourth*, the hæmorrhages; and, *fifth*, the discoveries made by the microscope.

"Professor Allen Thomson had the goodness to lend me his able assistance, in examining the blood of a number of my patients, by means of the microscope. A few drops were taken from the thumbs on the same day (24th Oct.), of about a dozen persons, some of them in the pyrexial, and others in the apyrexial stage of the disorder; and it was found, that in all of them, there were an unusual number of pus globules; and in some cases, in addition to this, all the globules were found serrated and notched. One gentleman present upon this occasion, was observed to have his blood exactly in the same state as the fever patients, and within two days he was seized, and went through two mild attacks, or to use conversational phraseology,—*the fever and the relapse*. The blood of some other healthy persons was also examined at the same time; it exhibited nothing unnatural, and none of these latter individuals have taken the fever, although more than a month has now elapsed since the observation was made.

"I have been told by Dr Douglas Maclagan, that he has detected urea in the fluid found within the ventricles of the brain, and in the blood of one or two of Dr Henderson's fever patients, in whom he looked for it, at that gentleman's request. The observation is one of great interest, but not different from what might have been anticipated. Since an early period of the epidemic, I have treated a certain class of head symptoms by cupping in the lumbar region, and diuretics, from a belief that urea was circulating with the blood, in consequence of the kidneys being incapable, from conjestion, of exercising their function. I apprehend, however, that urea is seldom *abundant* in the blood of our fever patients, as it is extremely rare to meet with symptoms at all resembling those known to characterize the peculiarity of its action as a poison, especially resembling foxglove in its effects; and according to the concurrent testimony of many, such are the toxicological manifestations of urea, when administered to animals as a poison, or to the human subject as a medicine. The muscular and articular pains may possibly depend on urea." Pp. 112-114.

"2. *The origin and mode of propagation.*—The disease is contagious. Of this we have sufficient evidence in the fact, that almost all the clerks, and others exposed to the contagion, have been seized. Dr Heude, and his successor Mr Reid, in the New Fever Hospital; Dr Bennett, my successor there; Mr Cameron, and his successor Mr Balfour in the adjoining Fever House; as well as most of the resident and clinical clerks in the Royal Infirmary, have gone through severe attacks during the past summer and autumn. Hardly any of the nurses, laundry-women, or others coming in contact either with the patients or their clothes, have escaped; at one time there were eighteen nurses off duty from the fever; and of those who have recently been engaged for the first time, or of those who have hitherto escaped, one and another is from time to time being laid up.

"It may be fairly objected, that while these illustrations incontestibly prove that the disease is contagious, they do not give a fair view of the degree in which it is so, inasmuch as all the individuals specified were not only much exposed to the poison, but were also, from the laborious nature of their respective duties, peculiarly predisposed to succumb under its influence. It is admitted, that fatigue is a predisposing cause; and also, that the contagion is rendered infinitely more dangerous by the *consortus ægrotorum*, even in well-ventilated fever wards, than it is in other circumstances.

"Long-continued exposure to the poison seems also to operate most evidently against the chance of escape, as we find that comparatively few of the Dispenary medical officers and pupils—a very numerous class—have taken the disease. These gentlemen are much exposed to the fever, and undergo a great amount of fatigue; but they are generally with their patients only for short periods, and have constant opportunities of inhaling an uncontaminated atmosphere.

"I have seen and heard of a considerable number of isolated cases, of various degrees of severity, in the best districts of the New Town; but have never yet known of an instance of the disease propagating itself in these localities. The same observation has been made by several medical friends, at whom I have made inquiries on this subject. That at a more advanced period of the epidemic, it may gain a footing in the New Town, would not be at all remarkable, considering the unrestricted intercourse between the poor of the infected, and the wealthy of the uninfected districts. Besides, the midnight labours of the gay season will soon be in operation as a predisposing cause.

"Those London physicians who have had the best opportunities of observing typhus fever, believe, that the poison in which it originates, does not extend for more than three or four feet from the patient; or, at all events, that at a greater distance, it becomes so diluted by the atmosphere, as to be innocuous.*

"It appears, that the contagion of the fever at present prevailing is subject to a similar law. James Middleton was sent to my fever ward, No. 6, in the Royal Infirmary, by the admitting clerk. When I first saw the patient, on the following day, I found that he laboured under empyema and disease of the heart, but neither had, nor had had any symptoms of the fever. I immediately ordered his removal to a general ward, but unfortunately my orders could not be, or at least were not executed, till the evening of the following day, when he was taken to No. 4, after having been in the fever ward for about fifty hours. During the first day of his residence in the general ward, he continued without any symptoms of fever; but on the forenoon of the following, he had the usual initiatory febrile paroxysm, in so well-marked a form, as to convince me from the first of its nature. On the 5th day from his seizure, he died, intensely yellow, having had much inveterate vomiting, and black vomit for some hours before his death. In the next bed to this man, lay Daniel Lamb, an epileptic patient, who was in the habit of sitting on the fever man's bed during a great part of the day. He was the only patient in the ward who had any intercourse with him, and he was the only one who was seized with the fever. He took ill on the day that his neighbour died; and within five days, he also died, with exactly the same symptoms. These two cases were the most rapidly fatal, and the most malignant in their symptoms, of any that I have seen; and yet, of the other sick and convalescent patients in the ward, (always above twenty in number,) none have been seized with fever since these deaths took place.

"From the number of laundry-women that have been attacked, it appears, that the clothes of our fever patients are especial repositories and communicators of the morbid poison. An interesting fact, which may be introduced here, as it is probably to be explained by what has just been stated, was communicated to me by Mr Nicholson, from the island of Skye, one of my pupils. He informed me, that two reapers, who had had the fever in Edinburgh, arrived in his neighbourhood after their return home at the close of the harvest, when not a single case of the fever had been seen in the district. The mother of these persons, with whom they lived from the time of their arrival, was, in a few days, seized with the disease, and died. Other severe, and, in several instances, fatal cases occurred among the neighbours, who had waited upon her; and the disease is now spreading to such an extent over the whole territory as greatly to alarm the inhabitants. The people consider it a new pestilence among them, and are so dismayed at its appearance, and so afraid of its contagion, that they are ceasing to attend at church on Sunday. It is not, of course, to be supposed that all of the Skye cases have originated in the arrival of the two individuals referred to; because shortly after they returned, many others came back from their annual visit to the south, among whom were not a few who had been patients in the fever hospitals of Edinburgh and Glasgow.

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* Believing in the certainty of this law, the fever patients are distributed (with impunity, it is said,) throughout the general wards of most of the metropolitan hospitals, care being taken, that they are placed at due distances from each other, and from the rest of the patients. If these fever patients are too numerous in the ward, the atmosphere becomes tainted with the morbid poison, and the disease spreads. Similar results have followed the same experiment in this Infirmary; and I am quite satisfied, that were the fever patients *cautiously diffused through the general wards*, the lives and health of many physicians, clerks, and nurses might be spared.

"3. *The structural lesions caused by the fever.* The following summaries of all my dissections will enable the reader to see at one view, what are the structural lesions caused by the fever:—

"DISSECTION OF THE FATAL CASES IN THE NEW FEVER HOSPITAL.

Name, Age, and Duration of the Disease.	Appearances on Dissection.
James Law, aged 74. Died on the 10th day. *Vide page* 25.	Bile-ducts pervious; gall-bladder contained inspissated bile; liver natural; gastro-intestinal mucous membrane here and there dark-coloured, with submucous exudation of blood; black matter, similar to what was vomited, found in stomach, &c.; the spleen weighed six ounces, and was under the average bulk; kidneys not congested; membranes of the brain not congested; large livid patches on the external surface of the body, but no yellowness of the surface or internal parts.
George Johnstone, aged 20. Died on the 7th day. *Vide page* 29.	Bile-ducts pervious; gall bladder contained inspissated bile; gastro-intestinal mucous membrane dark coloured, with black patches, and submucous exudation of blood; heart very soft; kidneys yellow in all their textures; liver natural; yellow serum in ventricles of brain; brain natural; yellowness of all the white tissues.
Archibald Campbell, aged 40. The day of the disease on which he died is not known. *Vide page* 33.	Bile-ducts pervious; gall-bladder contained tenacious inspissated bile; gastro-intestinal mucous membrane vascular, with submucous exudation of blood; stomach over one-third of its surface was very black, from blood effused on the surface of, and under the mucous membrane, and the same appearance was found in other parts of the intestines; spleen weighed eight ounces, and was easily broken down; the white textures generally were yellow; heart healthy; under endo-cardium, especially in the left ventricle, there was considerable effusion of blood.
Jane Merrilees, aged 39. Died on the 14th day. *Vide page* 37.	Bile-ducts pervious; gall-bladder contained bile; spleen greatly enlarged, very soft, and weighed one pound seven ounces; heart natural; every where much congestion.
Mrs Morris, aged 45. Died on the 24th day. *Vide page* 46.	Old disease of the lungs; ulceration of the bowels; black patches of altered blood in the rectum.

"DISSECTIONS OF FATAL CASES IN DR CORMACK'S WARDS OF THE ROYAL INFIRMARY.

Name, Age, and Duration of the Disease.	Appearances on Dissection.
James Middleton, aged 50. **Died on the 5th day.** *Vide Appendix.*	Empyema, and other disease of the chest of old standing; intense congestion of all the internal organs; extravasation of blood under, and black adhesive jelly upon the mucous membrane of the stomach, and duodenum; spleen enormously distended, and weighed 2 pounds—it broke down under the fingers, like loosely coagulated blood; yellowness of the external surface, and of all the internal white textures; bile-ducts pervious, and a moderate quantity of bile in the gall-bladder; liver enlarged, apparently from old disease.
Daniel Lamb, aged 37. **Died on the 5th day.** *Vide Appendix.*	Liver firm, dark-coloured, and turgid with blood; weighed 4 pounds 8 ounces; spleen easily broken down; weighed 1 pound 11¼ ounces; bile-ducts pervious; gall-bladder moderately full of very black thick bile; in the stomach, a considerable quantity of the black matter usually found in such cases; in the sigmoid flexure of the colon, submucous exudation of blood; cranial bones unusually thick; a large quantity of yellow fluid in the ventricles of the brain; numerous spiculæ in the cavity of the cranium; heart weighed 15 ounces; yellowness of the surface and the white textures of the body.
Archibald Davidson, aged 20. **Died on the 9th day.** *Vide Appendix.*	Liver firm; of a dirty pale yellow colour; spleen was firm and natural—it weighed five ounces; gall-ducts pervious, and black bile in the gall-bladder; black tenacious jelly adhering to mucous membrane of the stomach, and other parts of intestinal canal; large clots of blood in the submucous cellular tissue of the stomach; the clotted blood encircled the caput cœcum in thick bands under the mucous membrane; the body was yellow externally, as was likewise every white tissue within the body; penis and scrotum had a dark gangrenous appearance, and on the latter, there was a small excoriated surface.

"The *post mortem* appearances must of course vary somewhat with the duration and malignancy of the disease; and a greater diversity of lesions would undoubtedly have been presented to the reader, had more dissections been obtained. Enough, however, has been seen, and is here recorded, to indicate at least the nature of the lesions to be expected in similar cases: viz. 1. Abundance or even excess of bile, and a pervious state of the biliary ducts; and 2. More or less congestion of organs, with frequently, extravasation of blood in various situations.

"These appearances are either identical with, or analogous to, what the majority of observers have noticed and described, as being those which are found in persons dying of yellow fever."

SEQUELÆ.

We have only space to mention the post-febrile affections which were noticed in the hospital, viz.—

"1. *A peculiar form of opthalmitis, usually preceded by amaurotic symptoms.*—2. *Glandular Swellings.*—3. *Boils and cutaneons eruptions.*—4. *Effusion into the knee-join.*—5. *Swelled legs and ankles.*—6. *Pain in the feet, with, and without swelling.*—7. *Paralysis of the deltoid, and certain other muscles.*—8. *Sloughing of parts.*"

TREATMENT.

"At an early period of my experience, I became convinced, that there were three states most apt, either separately or conjointly, to cause death, and which, therefore, ought to be anxiously looked for, and, if possible, promptly corrected. They are,

"1st, *Congestion of the mucous membrane of the stomach and intestines, terminating in effusion of blood, and subsequent destruction of large portions of this tissue.*

"2d, *Congestion of one or more of the abdominal viscera, particularly of the liver and kidneys, disabling them from the performance of their secretive functions, thereby causing bodies to circulate with the blood, which ought to be separated from it, and which bodies we know act as poisons when not so eliminated from, or when directly introduced into the circulation.*

"3d, *Debility and sinking.*

"4th, *It will also be necessary to speak of the measures to be adopted to prevent or modify relapses.*" Page 150.

STATISTICS.

"The last chapter is devoted to the statistics of the disease. We have only space for the following memoranda:—

"In April, 1843, there were in the Infirmary, . . 96 Fever patients.
May, " " . . 133 "
June, " " . . 161 "
July, " " . . 206 "
(In July 1842, " . . 55) "
The Janitor's house was first opened, to accommodate more patients. Next the New Fever Hospital was opened in the beginning of August, with 60—soon afterwards increased to 86—beds.
On August 14, the Infirmary, &c., contained. . 280 Fever patients.
28, ... 306 "
The Lock Fever Hospital was opened on September 1, with 35 beds.
On September 11, there were, altogether, . 371 Fever patients.
Next, the Male Shed was opened with 26 beds; and on the 20th September, the Chapel and Servants' rooms were fitted up with 20 beds.
On September 25, the number was . . 469 Fever patients.
The Female Shed was opened on October 9, with 55 beds.
On October 11, there were, ... 482 "
November 6, ... 501 "

Number of Fever Patients during the last Six Weeks in all the Fever Wards.

November 13, ...	467
" 20, ...	478
" 27, ...	465
December 4, ...	471
" 11, ...	451
" 18, ...	470"

Dr Cormack's Memoir extends to 180 octavo pages. Many interesting cases are detailed.

J.R.C.

SURGERY.

Form of Artificial Leg. By Dr King.

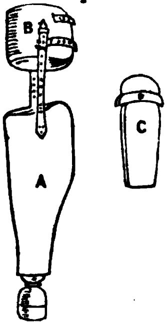
We are induced to insert the following extracts from a probationary paper by Dr King of Glasgow, sent us some time ago, as the apparatus he recommends appears to be a *desideratum.*[1]

"There is much diversity of opinion among surgeons of eminence regarding the propriety of amputating immediately below the tuberosity of the tibia, for diseases of the foot and lower part of the leg. The question is of very considerable practical importance. Every day's experience proves, that the less the amount of substance removed, the less the risk to the patient, and hence the danger of amputation is increased, the nearer we approach the trunk of the body. The fingers are removed at less risk than the carpus—the carpus than the fore-arm—the fore-arm than the arm. A reference to any statistical table will prove these statements; and such being the case, the low operation is to be preferred, if there be not some serious objections to counterbalance the advantages of safety. Mr Liston, in his *Practical Surgery*, says,

"'If the patient have not any laborious employment to follow, wishes to conceal the deficiency, and can afford to purchase an artificial foot, then the stump should be left sufficiently long for its attachment, so that the motion of the knee may be preserved, and the gait rendered less awkward. If, again, the patient is otherwise situated, the shorter the stump the better and more serviceable it will be. There can be no greater mistake than to leave a working man a long stump below the knee. It is continually in the way, and I have very often, indeed, been induced to comply with the request of patients to have their stumps shortened, and made of more convenient length.' P. 317.

"More recently, similar opinions have been advanced by Mr Potter. He says, 'to patients who are obliged to wear the common wooden pin, and labour for their living, it (a long stump) is found a very useless, and frequently much worse than useless appendage.'[2]

"In Glasgow, instead of 'the common wooden pin,' on which the bent knee is made to rest, an apparatus resembling that used for the thigh can be procured at less cost. It consists of a hollow wooden box, to which a short wooden pin is attached, and is made to press on a pad fixed round the leg below the knee. When such an apparatus is used, the patient has the free and unrestrained use of the knee-joint, and walks with as great freedom and ease as if he had only an anchylosed ankle-joint; whereas with the pin, he requires to drag the leg behind him, on account of the action of the muscles being interfered with by the bent state of the joint. This apparatus is equally well calculated for all other purposes as well as walking; and as it does not seem to be sufficiently well known, I subjoin a drawing of it. I have seen many cases illustrative of the advantages of the low operation, both in respect to safety and after usefulness.



"A—The hollow wooden box which receives the stump.

"B—Belt which is fixed above the knee, and attached to the leg by two straps.

"C—The leather bandage which laces round the stump.

"D—The circle of strong leather against which the upper part of the box presses."

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[1] See Dr Paul's case in our December Number.

[2] Med. Chirur. Trans., vol. xxiv., p. 165.

MIDWIFERY.

STATISTICS OF MIDWIFERY. BY DR METCALF.

Dr John George Metcalf contributes to the *American Journal of Medical Sciences* a long article on "Statistics in Midwifery," the most valuable and interesting portion of which we will endeavour to lay before our readers in an abridged form. The number of cases amounts to 300, and were all attended by Dr Metcalf prior to 1839. The following table gives the duration of the labour in hours:—

Hours in Labour.	Number of Women.	Hours in Labour.	Number of Women.	Hours in Labour.	Number of Women.
1	1	17	4	40	2
2	1	18	8	42	1
3	1	19	1	47	1
4	7	20	7	48	1
5	3	21	1	50	1
6	25	22	1	56	3
7	5	23	3	60	3
8	15	24	56	65	1
9	1	25	1	66	1
10	8	27	1	67	1
11	4	28	2	69	1
12	85	29	1	72	1
13	5	30	7	85	1
14	3	32	1	90	1
15	6	33	1		
16	2	36	14		

The two most lengthy labours,—those of 85 and 90 hours,—were both cases of deformed pelvis. In one case, that of 85 hours, the child was expelled by the natural efforts, without the aid of art; the other was delivered by lessening the head, and the aid of the blunt hook. This was the only case of instrumental delivery, so that the use of instruments was only resorted to once in 300 instances,—a proportion extremely small when compared with the experience of other practitioners. Merriman resorted to instruments in 1 out of 98; Granville, in 1 out of 80; Collins of Dublin, in 1 out of 114 cases.

The following table shows the kind of presentation:—

Presentation.	No. of Children.	Presentation.	No. of Children.
Vertex, . . .	286	Breech, ...	3
Face, ...	1	Funis, ...	2
Face to pubis, ...	1	Placenta, ...	1
Both feet, ...	3	Not known, ...	4
Foot and knee, . . .	1		

It thus appears, that the natural presentations, allowing the 4 not known to have been of an opposite character, were 94·7 per cent. of the whole number, leaving only 5·3 per cent. for all other presentations.

The *face presentation* occurred in a rapid labour, and gave no trouble; the child's face remained livid for some days.

The *face to the pubis presentation* occurred in a long and tedious labour; it was a miscarriage at the eighth month; the child was lost, and the mother did well.

Of the *three presentations with both feet*, two were lost after the child's head had descended into the pelvis; the third case was delivered after a labour of twenty-four hours, with little aid.

The case *where one foot and one knee presented*, was converted into a footling presentation; the head was arrested in the pelvis, but by depressing the chin with the fingers, and the exercise of considerable force, the child was safely delivered.

The *three breech presentations* all did well; with a finger in the mouth, and the chin depressed upon the breast, very little force was requisite to finish the labour.

The child was dead some time before birth in both the cases where the *funis presented.*

The *presentation of the placenta* occurred in a case of abortion at the fifth month. The placenta, and after it the fœtus, was expelled by the efforts of the uterus; the hæmorrhage continued for some time, and the patient recovered after a protracted convalescence.

The 4 cases *not ascertained* were those to which Dr Metcalf had not been sent in time.

165 of the children were males; 137 females; that is, 55 per cent. for males, and 45 per cent. for females.

A table is given, which proves that the popular notion that more deliveries take place during the night than in the day-time, does not hold always good. One-half of the children were born between twelve o'clock at night and twelve o'clock at mid-day, and the other half been mid-day and midnight.

The mean weight of the male children was 8 lbs. 6 oz.; and of the females, 7 lbs. 12 oz.[1]

77 deliveries took place in spring, 70 in summer, 80 in autumn, and 73 in winter.

The following table is the only other part of Dr Metcalf's paper which we consider necessary to transfer to our pages.

Circumstances not classified.

Births completed without the rupture of membranes,	2
Still-born,	7
Abortions,	5
Miscarriage,	1
Twin cases,	2
Children deformed,	2
Pelvis deformed,	2
Spina bifida,	1
Illegitimate,	3
Puerperal fever,	2
Mortification,	1
Convulsions,	2
Retained placenta,	1
Perineum ruptured during labour,	1
Ergot given before birth of child,	2
Ergot given after birth,	3
Venesection during labour,	2

—Abridged from the *American Journal of Medical Sciences*, October 1843.

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[1] Did Dr Metcalf walk about with beam-scales, weights, &c., in his pockets? But we forget that he does not seem to have carried instruments of any other kind.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

The Society met for the first time this season in 13 Queen Street, on

Wednesday, November 1. Dr GRAHAM, President, in the chair.

The Secretary read a *Case of Disease of the Ileum; by Philip W. Maclagan, M.D., staff-assistant surgeon, North America*, of which the following is an abstract:—

Private William Gillespie, 74th regiment, aged 19, admitted into the detachment hospital, Isle aux Noix, Nov. 7, 1842. This is a spare delicate-looking young man who has suffered from syphilis, and was in hospital in May last for a secondary cutaneous eruption and nodes; both of which affections were removed by a short mercurial course. His present symptoms are loss of appetite and vomiting, which first came on a few days ago. He is considerably emaciated, and has lost strength lately. He has no cough, no trial pain, no epigastric tenderness; bowels pretty regular; tongue red at the edges and down the centre; the urine is scanty, strongly ammoniacal soon after being passed, and deposits an abundant phosphatic sediment; specific gravity of the filtered urine 1030. The deposit consists almost entirely of microscopic crystals of neutral triple phosphate, as represented by Dr Prout. He was ordered calumba and muriatic acid, which was continued for ten days, with the effect of checking the vomiting, and increasing the quantity of urine from sixteen to twenty-four ounces per diem. The latter, however, still remained turbid and ammoniacal, and no improvement of appetite appeared. Otherwise the functions appeared healthy; bowels regular, sleep sound, and, in short, a want of any symptoms which could indicate the cause of his emaciation and debility. *Nov.* 31. He had two grains of quinine daily, and his diet low, with beef tea extra. *December* 1. Decidedly improving; appetite good, urine increased in quantity—hardly ammoniacal, and the phosphate much less abundant—specific gravity varied from 1016 to 1024. To save repetition, I may mention that his appetite continued good, and was frequently voracious, till within a day of his death. Suspecting the existence of mesenteric disease, I determined to try the effects of iodine, which was commenced on the 11th December, to the extent of four grains hydriodate of potass with one grain of iodine per diem, which was continued for six weeks, with a few days' intermission in the end of December when he had slight diarrhœa, which was checked by a dose of Pulv. Rhei. *c.* Magnesia. At the same time too, he complained of epigastric tenderness, for which the tartar emetic ointment was applied, and pustulation kept up for some weeks. On December 31, he was reported to have good appetite; bowels regular; tongue clean; urine quite natural in appearance and quantity; specific gravity 1012; unchanged by heat, acid, or ammonia. He never, however, gained flesh, and from this time continued to lose ground daily. The tenderness, at first confined to the epigastrium, was soon felt over the whole abdomen, on making firm pressure. *Once* again he had slight tendency to diarrhœa, but usually he required mild laxatives. The stools usually were pale, and sometimes even clay-coloured. The tongue, during the last month of his life, presented a peculiar appearance; it was dry and of a dull brick red, with irregular whitish patches on it, not similar on the two sides, and appearing as if part of the tongue had been scraped, which was not the case. Emaciation proceeded rapidly. On the 9th February, vomiting occurred, and continued three days in spite of all means employed. On the 12th, he became nearly insensible, but could be roused, and lay in the same state, merely drinking a little wine when placed in his mouth, till the 15th, when he expired.

Treatment in hospital, 101 days. First appearance of disease (loss of appetite, &c.,) about five months before death.

Sectio Cadaveris, five hours after death.—Body excessively emaciated. *Head* not examined. *Thorax*, old pleuritic adhesions on both sides. Lungs healthy, crepitating freely. On the anterior margin of the upper left lobe, a small almost cartilaginous granular-looking mass as large as a nutmeg. Heart, &c., healthy. *Abdomen*, total want of fat on omentum and around the kidneys; mucous membrane of stomach soft, and thicker than usual; at both orifices of a lively rose colour, and near the pylorus covered with a coat of transparent tenacious mucus. The redness extended into the duodenum as far as the entrance of the ducts. Small intestines healthy, till within three feet of the cœcum, where there was a portion of diseased mucous membrane extending about ten inches. This was succeeded by a healthy portion, and then from twelve inches above the cœcal valve down to the interior of the cœcum itself, the whole presented a diseased appearance, as in the upper portion, and which I cannot better describe than by comparing it to black currant jelly. About the cœcal valve part of this presents an almost melanotic appearance. On the peritoneum there are one or two hydatid (?) cysts of various sizes; the largest would hold a hazel nut. Mesenteric glands much enlarged; structure apparently healthy. The colour was quite healthy. Liver pale, and, like most of the viscera, nearly bloodless, but its structure appeared healthy. Kidneys healthy.

The remarkable point in this case appears to me, the absence of diarrhœa or other symptoms to indicate such extensive disease of the mucous membrane, in so much that I believed the case to be one of chronic peritonitis.

Sex of the Child and the Safety of Parturition.—Professor Simpson made a statistical communication to the Society, for the purpose of proving, that the sex of the child has a very marked and demonstrable influence upon the safety of the process of parturition, in regard both to the mother and infant. This was due to the slight but decided difference of size in the heads of male and female children.

Amputation at the Hip-Joint.—Dr Handyside communicated to the Society the history of a case of successful amputation of the hip-joint for malignant disease of the left thigh-bone, performed by him in the Edinburgh Royal Infirmary at the end of last June. The patient, a lad aged fourteen, was affected, six years previously, with pain in the thigh subsequently to scarlatina; the bone, however, did not become materially enlarged until December last, subsequently to which time it grew rapidly, and previously to removal had attained a considerable magnitude.

The removal of the limb was effected easily in seventeen seconds, by anterior and posterior flaps. The *ligaments* and *cartilaginous surfaces* of the joint were healthy, but the head and neck of the thigh-bone had partially undergone interstitial absorption.

The wound healed for the most part by the first intention, and the patient left the hospital in six weeks after the operation.

About the 5th of August, however, the left eye, and subsequently the entire orbit became the seat of painful sensations; and about the 11th of September, the course of the lymphatics along the stump, as well as the fore-part of the stump itself, became indurated and glazed. Six weeks afterwards, the left hypochondriac region became the seat of pain, and shortly after, a small round tumour evidently of a malignant character, arose there; while, at the same time, the left eye began to protrude, and the whole of that orbit and side of the brow became suddenly enlarged. When the patient was last visited (on the 27th Oct.), the stump presented on the fore-part of the cicatrice a flattened and somewhat fungous protrusion, of the size nearly of a pigeon's egg, from which distilled occasionally a thin bloody serum.

Dr Handyside stated that he expected that the patient could not survive much longer this return of the disease.

Illustrative preparations, casts, and a drawing were exhibited to the Society.

Wednesday 6th December, 1843. Dr Graham, President, in the chair.

Dr Cormack exhibited the *remarkable cranium* described by Mr Rankine of Carluke, in the December Number of the *London and Edinburgh Monthly Journal*. It presented among other peculiarities, superadded occipital condyles—very marked ossa triquetra—and a conformation of the lower jaw-bone, resembling that of a person of fourteen or fifteen, though the individual was twenty-seven years old; there was also want of symmetry of the two halves of the cranium, especially apparent in the cerebellar region.

Case of Disease of the Cardiac Orifice of the Stomach. By John Scott, M.D., F.R.C.S.E.—Dr Scott's case was one of cancerous affection of the œsophagus and cardiac orifice of the stomach, commencing with occasional slight difficulty of swallowing, from some obstruction to the food passing into the stomach. No pain on pressure, or tumour could be discovered, and an œsophagus bougie passed with facility. The difficulty of swallowing occasionally recurred, with intervals of complete relief. Dissection revealed the total destruction of between four and five inches of the œsophagus just above the diaphragm, with the exception of a narrow strip of the lining membrane of the tube, which was the only vestige remaining of the original structure. The mucous membrane of the stomach was healthy and natural.

On the Characters which distinguish the present Epidemic Fever from ordinary Typhus. By Professor Henderson.—The essay was intended to show that the present epidemic, in respect to origin, mode of propagation, symptoms, and progress, was a distinct disease from the ordinary typhus fever of Edinburgh. The author has not furnished an abstract.

Election of Office-bearers for the ensuing year:—President, Robert Graham, M.D. Vice-Presidents, J. Y. Simpson, M.D., W. Brown, Esq., Robert Hamilton, M.D. Councillors, J. R. Cormack, M.D., J. Cowan, M.D., J. H. Bennett, M.D., J. Dunsmure, M.D., P. S. K. Newbigging, M.D., J. Spence, Esq., S. A. Pagan, M.D., W. Seller, M.D. Treasurer, Robert Omond, M.D. Secretaries, Douglas Maclagan, M.D., James Duncan, M.D.

ROYAL SOCIETY OF EDINBURGH.

At a General Meeting held on Monday the 27th November, the following Council were elected:—President—Sir T. Makdougall Brisbane, Bt. G.C.B., G.C.H. Vice-Presidents—the Hon. Lord Glenlee; Dr Hope; Sir D. Brewster, K.H.; Right Hon. Earl Cathcart, K.C.B.; Dr Abercrombie; Very Rev. Principal Lee. General Secretary—Professor Forbes. Secretaries to the Ordinary Meetings—David Milne, Esq.; Professor Kelland. Treasurer—John Russell, Esq. Curator of Library and Instruments—Dr Traill. Curator of Museum—John Stark, Esq. Counsellors—W. A. Cadell, Esq.; Dr Maclagan; James Wilson, Esq.; Rt. Rev. Bishop Terrot; Dr Parnell; Dr Carson; Sir John Macneill, G.C.B.; Sir George S. Mackenzie, Bart.; Sir Thomas Dick Lauder, Bart.; Alan Stevenson, Esq.; James T. Gibson-Craig, Esq.; Dr Craigie.

ROYAL MEDICAL SOCIETY OF EDINBURGH.

Presidents, Frank Renaud, Esq., London; Alexander Fleming, Esq., Edinburgh; Joseph W. J. Johnston, M.D., Dumfries; W. S. Steven, M.D., East Indies. Curator of Library, R. T. Maitland, Esq., Lancashire. Honorary Secretaries, Edward B. Bowman, Esq., Calcutta; John C. Da Costa, Madeira. Treasurer, John F. Macfarlan.

HUNTERIAN MEDICAL SOCIETY OF EDINBURGH.

On Wednesday December 6, the following gentlemen were elected:—Presidents—Robert G. Lord, M.R.C.S.L., Co. Cork; Michael W. Taylor, Esq., Edinburgh; Thomas Wright, Esq., Nottingham; Frederick Henry Johnson, Esq., Sunderland, Durham. Honorary Secretaries—R. Bridgeman Wigstrom, Esq., County Cork; Robert Byres, Esq., Fifeshire. Honorary Treasurer—James Marr, Esq., M.D. Honorary Librarian—Lawrence R. Wynd, Esq., Mid-Lothian.

BOOKS RECEIVED.

1. The Medical Almanac, or Calendar of Medical Information for the year 1844, being Bissextile of Leap Year. Pp. 78, 12mo. London, 1844.

The general correctness and comprehensiveness of the matter render this almanac really valuable.

2. Thermal Comfort; or Popular Hints for preservation from Colds, Coughs, and Consumption. By Sir George Lefevre, M.D., Fellow of the Royal College of Physicians in London. *(Second edition, greatly enlarged.)*

3. The Cold Water Cure; reprinted with additions from the last edition of the baths of Germany. By Edwin Lee, Esq. Pp. 42, 8vo. London, 1844.

4. Elements of Natural Philosophy; being an Experimental Introduction to the Study of the Physical Sciences. By Golding Bird, A.M., M.D., F.L.S., &c. &c. *(The second edition, revised and enlarged.)*

5. Principles of Medicine; comprising General Pathology and Therapeutics, and a brief general View of Etiology, Nosology, Semeiology, Diagnosis, and Prognosis. By Charles J. B. Williams, M.D., F.R.S., &c. 8vo, pp. 390. London, 1843.

Without expressing concurrence in many of Dr Williams's doctrines, we may safely say, that this is an important work.

6. A Manual of Medical Jurisprudence. By Alfred S. Taylor, Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital. 12mo, pp. 670. London, 1844.

This work contains an immense quantity of well digested and very valuable matter. It is not, like the work of Beck, a mere compilation, but is greatly enriched by the author's own experience and observation.

7. Principles of Forensic Medicine. By William Guy, M.B. Cantab., Professor of Forensic Medicine, King's College, London; Physician to King's College Hospital. *Part II.* 12mo. London: 1843.

The third and last part of this excellent work is announced to appear on the 1st of March.

8. The Surgeon's Vade Mecum. By Robert Druitt, Surgeon. *Third edition.*

This work well deserves the extensive patronage which it has received.

9. On Postfebrile Ophthalmitis. By W. Mackenzie, M.D. [*From the London Medical Gazette.*] 8vo, pp. 14. London: 1843.

10. Elementary Instruction in Chemical Analysis. By Dr C. Remigius Fresenius, Chemical Assistant in the Laboratory of the University of Giessen. With a Preface by Professor Liebig. Edited by J. Lloyd Bullock, Member of the Chemical Society, late of the Giessen and Paris Laboratories. 8vo, pp. 284. London: 1843.

The best book of the kind, in any language.

11. The Physiology of Inflammation, and the Healing Process. By Benjamin Travers, F.R.S., Surgeon Extraordinary to the Queen, and Surgeon in Ordinary to H.R.H. Prince Albert. 8vo, pp. 226. London: 1844.

We intend to speak of this work in an early number.

12. A Dictionary of Practical Medicine. By James Copland, M.D., F.R.S. Part IX.

This Part concludes with the article *Ozæna.*

13. Descriptive Catalogue of the Anatomical and Pathological Museum of the School of Medicine, Park Street, Dublin. By John Houston, M.D., M.R.I.A., &c. &c. 8vo, pp. 131. Dublin: 1843.

14. On Superstitions connected with the History and Practice of Medicine and Surgery. By Thomas Joseph Pettigrew, F.R.S., F.S.A., &c. 8vo, pp. 167. London: 1844.

15. Essay on the Physiognomy of Serpents. By H. Schlegel, Doctor in Philosophy, Conservator of the Museum of the Netherlands, &c. &c. Translated by Thomas S. Traill, M.D., F.R.S.E., Regius Professor of Medical Jurisprudence in the University of Edinburgh. Post 8vo, plates, pp. 254. Edinburgh: 1843.

This work is reviewed at p. 68.

16. Introduction to the Study and Practice of Midwifery, comprehending the Physiological and Medico-Legal Questions connected with the subject. By William Campbell, M.D., &c.; and Alexander D. Campbell, B.A., &c. 8vo. pp. 804. Edinburgh: 1843.

TO CORRESPONDENTS.

Many letters and papers have been received, which we are not able, from pressure of various duties, to answer or advert to at present, in any way that would be satisfactory. We will endeavour to communicate with our correspondents by private letter at an early date.

TO READERS AND SUBSCRIBERS.

This Journal contains a monthly retrospect and abridgement of all that is new and important in the medical publications of Great Britain and the Continent; and is especially intended to supply information to those who can afford no leisure to hunt after it in the original sources.

The "FIRST PART" contains several *original articles*, chiefly of a practical nature; many of those which have appeared, have been written for it by the most eminent men in the profession, and as some index to their value, it may be stated, that a large number of them have been reprinted in America, France, Italy, Spain, Denmark, and Germany. The "SECOND PART" is devoted to *Bibliographical Notices*, and the *Review of New Works*, important extracts from which are often given. The "THIRD PART," called the Periscope, is composed of a condensation of all the valuable matter in the latest numbers of the British and Foreign Journals, with occasional extracts from books difficult of access. The "FOURTH PART" contains careful reports of the Medical Societies; the professional news of the day; and a list of all the books received for review. As almost every new British Medical work is received by the EDITOR, this list forms a valuable Bibliographical record.

The new volume begins with the present number. Most of the back Numbers may be had separately to complete sets, at 1s. 6d. each, through Booksellers and other Agents for the work.

Terms.—The volumes for 1841 and 1842, in cloth, at 15s. each. The volume for 1843, in numbers, 16s. The volume for 1844, (the numbers to be delivered as published,) 16s. if paid in advance,—18s. credit.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Statistics and Treatment of Fractures, occurring during two years' Service as Surgeon to the Glasgow Royal Infirmary. By* W. LYON, Esq., *Lecturer on Surgery in the Portland Street School, and lately one of the Surgeons to the Infirmary.*

(*Continued from page* 32.)

I NOW proceed to the history and treatment of the cases, detailing the particulars of such as were of much practical value, or possessed any unusual interest, giving the methods by which they were generally managed, and pointing out their several advantages and defects. There were only five cases in which there was positive evidence of fracture of the cranium; there were a considerable number with injuries of the head, with very severe and long-continued states of mental aberration, and corporeal disturbance; but as they wanted conclusive proof of fracture, their consideration here would be improper.

CASE 1. *Simple undepressed fracture of skull—Death—Appearances on dissection—Remarks.*

John Wilkinson, aged 40, admitted November 28, 1841—supposed to have fallen down a stair this morning, was carried to the police-office, where he remained for ten hours previous to admission. A wound with ragged margins, and the scalp separated from periosteum, for 3½ inches forwards, is situated over right parietal bone, at junction of sagittal with lambdoidal suture; fracture cannot be detected; there is considerable ecchymosis over right eye. Patient lies quiet; can be made to answer questions indistinctly; breathes healthily; pupils sensible; pulse rather slow, but of good strength. *Ten leeches to temples; a grain of calomel every hour.* Next day pulse was 84, soft and weak; pupils were contractile; he could be roused to partial sensibility, and made attempts to get out of bed. *Head to be shaved, and cold lotion applied; a turpentine enema to be given, and if necessary, a dose of black draught.* On the 10th, the pulse was 96, and weak; breathing laborious; nearly complete insensibility; has not swallowed since admission; bowels moved by enema. *To have a drop of croton oil, and another in an hour if required.* The symptoms regularly increased, and he died at 3 A.M. of December 2.

Examination of body thirty-six hours after death.—Periosteum not removed from bone at site of wound; on removing that membrane, a fissured fracture was detected, running on right side from near wound, forwards and outwards, across parietal to squamous portion of temporal bone; a thin layer of coagulated blood was found on surface of dura mater, under line of fracture; there was general extravasation under arachnoid, particularly over right hemisphere, at which part there was laceration and softening of, and extravasation into, cerebral substance; farther examination not permitted.

Remarks.—This case shows the difficulty, and sometimes the impracticability of making an exact diagnosis in the diseased conditions resulting from an injury of the head. When the symptoms of concussion or compression, as given by writers, exist pure and unmixed, they probably enable us to recognise those states with tolerable certainty; but they are very often commingled in various degrees, and probably were so in this case, and thereby counteracted and obscured each other. If the one prevails over the other, the symptoms of the greater are of course most intense; if, on the contrary, the two conditions co-exist in nearly equal degrees, the effects of the one may nearly counterbalance the consequences of the other; and the slow pulse, laborious respiration, and dilated pupil of compression, are respectively modified by the *often* quick pulse and breathing, and *generally* contracted pupil of concussion, so that we have a train of symptoms contra-indicating each other, or causing a state with characteristics so equivocal, as not to be trusted to for correct diagnosis.[1] The insensibility here, and not quickened pulse, might have led to the suspicion of compression. On the contrary, the absence of paralysis, the contractile pupil, the breathing not being laborious, and the pulse being *soft*, *weak*, and 84, when I saw him for the first time, on the 29th, were fully as characteristic of concussion.

Under these uncertain circumstances, and in the hope that the lapse of a short time would dissipate the symptoms arising from concussion, active measures were thought unadvisable. On the 30th, the respiration had become laborious, showing that the effects of concussion were waning, and permitting those of compression to evince themselves; but as no depression could be detected, and supposing compression from extravasation to have been present, as there was no sufficient guide to its locality, employment of the trephine was not thought advisable. Unless the symptoms of compression from extravasation be very decided, which they were not in this instance, and even although they be very well marked, the likelihood of removing the extravasation by a perforation with the trephine is very small indeed; for the extravasation is not regularly found under, or even near the fracture or other seat of injury, and therefore the application of the instrument, in expectation of finding it, cannot be considered as giving the patient more than the chance of a nearly forlorn hope; still, where the symptoms of compression are unequivocal and urgent, and especially if paralysis be present, and exists in parts so situated, as apparently to be produced by pressure on the brain in the seat of injury on the head, it will be the duty of the surgeon to expose the bone, and act according as fissure, depressed fracture, and signs of extravasation below shall indicate.[1] Neither the symptoms of compression in this instance, nor, supposing we had been convinced of its existence, the locality where it would have been found, were sufficiently decisive to have rendered perforation, with a view to its discovery and removal, advisable, and likely to be successful; for it is rare for the blood to be confined to such a limited space as will render its immediate removal practicable, while its decomposition, mixture with secretions, and consequent escape, are very dubious, and at all events would be tedious, and therefore not serviceable processes.

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[1] LISTON. Prac. Surg. p. 40, ed. 1837.

These points I have seen exemplified,[2] and the *post-mortem* examination in the above instance affords an additional proof of their correctness; for supposing extravasation to have been the sole or principal cause of the morbid conditions, (which I do not think it was,) still a small portion only could have been removed by a perforation: besides, from part of it being under the membranes, it likely would have escaped observation, and although seen, from being extensively spread over the right hemisphere, would not have escaped, by not only the not very promising, but somewhat hazardous expedient of incising the investments of the brain. Leaving in abeyance the question as to the danger of the operation of trephine considered singly, we believe the cases are very rare where it will prove serviceable in compression from extravasation alone, and calculating the additional danger from perforation, we conclude that in such circumstances, the chances of the patient are greater from the use of the medical, than from those of the mechanical aids of surgery—from cold lotions to scalp, purging, venesection, and mercurials. The increasing debility in this instance, under the local depletion, prohibited its farther employment, and also strengthened the belief, that concussion, and not compression, was at first the cause of the more urgent symptoms. I am convinced that surgeons occasionally err in pushing venesection too far, in cases of supposed compression from extravasation; they repeat their bleedings in rapid succession, in expectation of suddenly removing the symptoms, forgetting that absorption is a slow process, and that depletion can only act beneficially, by causing the sanguiniferous to make a call on the absorbent system for supplies, and thus hasten the removal of the extravasated blood, or by preventing or removing inflammatory action, the necessary result of the injury done to the vessels, &c. of the tissues in which the extravasation has occurred. By these remarks, I only wish to impress, that if symptoms be not very urgent, while remedial measures are not to be omitted, a reasonable time must be afforded for the exertion of those processes by which nature accomplishes her sanative purposes, and that however far depletion be pushed, it will fail, *suddenly* or *immediately*, to remove extravasation. There was a slight degree of laceration of the cerebral substance in this case, and it may be insisted that the symptoms I have referred to concussion, may with equal propriety be referred to compression; we know, however, that considerable cerebral lesion may take place, without affecting the functions of the brain, and therefore infer the slight laceration here did not produce much effect. Concussion, it is well known, does not leave *post-mortem* traces to account for its existence, which are cognizable to our senses; the symptoms of concussion, however, may depend on some change in the cerebral organization, and yet escape our detection; for if we grant organic, motory, and sensatory nerves to vary in organization, and if we admit that the division of the brain by phrenologists, into organs, each possessed of a different function, be correct, we must also allow a difference in structure to each organ; and as the structure of the various nerves and organs does not appear different to us, though really so, then the molecular arrangement of the brain may be changed in concussion, without the possibility of detection by us. The fact, however, that profound concussion may suddenly disappear, is a strong, if not certain proof, that the condition we style concussion is a functional disturbance, or interruption, or change of action, and not an alteration of structure. Concussion is a train of morbid symptoms, not a condition of brain demonstrable by dissection; and therefore, although the absence of any morbid appearances may lead us to conclude that death has resulted from concussion, in every case of extravasation, we must remain in ignorance, in how far the symptoms have been modified by, or dependent on concussion.

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[1] Brodie. Med.-Chirurg. Transac. vol. xiv. p. 385.

[2] Liston. Prac. Surg. p. 40.

CASE 2. *Simple undepressed fracture of cranium—Orbital plate shattered—Death—Appearances on dissection.*

Paul Dunlevy, aged 40, admitted at 1 P.M. of February 19, 1843.

He lies in a state of stupor, from which he can be roused only by smart stimuli, and cannot be made to speak; breathing slow, regular, and somewhat stertorous; pupils slightly dilated and sluggish; pulse 80, very small, and irregular; skin very cold; no marks of injury on person, except some ecchymosis around eyes; penis in a state of priapism; urinary bladder empty, and he is said to have got out of bed, and evacuated this morning; symptoms were occasioned by a fall from a stair to the ground a height of ten feet two nights ago, patient alighting on upper and left part of body; has not been coherent since; bowels moved yesterday by an enema; is of moderately temperate habits, and was quite sober at time of accident. Head to be shaved and cold lotion applied; heat to body and extremities.—*An ounce of sol. carb. ammon.* every second hour. *Feb.* 20. Died at 5 A.M., sixteen hours from admission.

Inspection.—No wound on head; an ecchymosed patch under scalp, at anterior and left part of head, and corresponding in situation with this a clot of blood size of a halfpenny on surface of dura mater; considerable injection and effusion of lymph on surface of arachnoid; lateral ventricles distended with turbid fluid; considerable bloody effusion at base of brain, and some small ecchymosed patches between convolutions; a fracture of frontal bone had occurred over orbital ridge of left side, and orbital plate was shattered, but not displaced. Lungs much engorged, and surfaces of pleura adherent at many points.

Remarks.—It is worthy of remark, that although there was a very severe fracture in this case, there was neither wound nor swelling to indicate its existence; indeed, the only local sign of injury to head was the ecchymosis around eyes. The blow which inflicted the fracture having been applied by a broad surface, and its impetus therefore much diffused, was probably the cause of the absence of wound; while there not being external extravasation or swelling, would indicate that the injury had not been followed by reaction. At admission, the symptoms were more those of compression than concussion, but the cold skin, and the very small irregular pulse, rendered its combination with concussion nearly certain: this belief, the state of collapse, and the absence of any guide to the seat of compression, put surgical treatment for its removal out of the question, while the prospect from the employment of medical measures was not much more promising. Contrary to the symptoms, the appearances on dissection would lead to the supposition that reaction and inflammation had occurred; but we had not any precise information as to his state previous to admission, and the injection of the arachnoid, the copious effusion, and even the lymph, may have resulted more from the effects of concussion, compression, atony, and congestion, than from those of inflammatory action.

Whatever may have been the indications before admission, his condition then was almost hopeless, from any treatment; at all events, the symptoms were such as urgently called for stimulants, and even the removal of the condition of parts as exposed by dissection, was probably as likely to be accomplished by exciting the nervous and vascular energies of the brain through the influence of stimulants, as by the effects of debilitants and evacuants.

Where there is reason to believe that there exists uncomplicated compression from extravasation, whether with or without undepressed fracture, if delay of operation be admissible, it is almost needless to observe, that bleeding, so as, if not directly to lessen the quantity of blood in the vessels of the brain, at least to diminish its pressure, by lessening the impetus of the heart's action, to hasten absorption, and also prevent inflammation, is the practice most in unison with rational theory and careful observation; but from the condition of this patient at admission, I do not see that any other measures than those advised could have been rationally employed.

I believe priapism is frequently present where there are lesions near the base of the brain; but whether it was referable in this instance to the ecchymosis and effusion at that part, I will leave to the physiologist and phrenologist for solution.

CASE 3. *Compound depressed stellated fracture of cranium—Fracture of clavicle, sternum, and ribs—Operation—Death.*

William Newlands, aged 40, admitted at 5 P.M. April 18, 1843. An hour ago, fell from the roof of a house to the ground, a height of twenty feet, alighting upon head and upper part of back. Complains chiefly of pain in back and right shoulder, but nothing abnormal can be detected in these parts. Situated on right side of head, between parietal prominence and sagittal suture, is a triangular lacerated wound of about an inch and a half in length, with much depressed margins. Finger introduced into wound detects bone bare, and fractured in several directions from an apex in the centre, where it is depressed to the depth of half an inch.

Patient is quite sensible and lively; pulse of natural frequency, but rather weak; pupils in normal condition; extremities cold.

Heat of body to be restored. At a consultation held at 7 P.M. it was determined, that depressed portions of bone should be elevated; patient, since admission, having gradually become soporose, and the pulse being slow and weak. Two ounces of whisky were administered, and first the external and then the internal tables of depressed fragments of bone were removed by elevator only, leaving a nearly circular opening in skull, about size of a half-crown; dura mater was uninjured. His bowels were opened; cold applications made to head; he took small doses of antimony; was kept on low diet; dark and quiet. He continued tolerably well untill the 21st, when erysipelas appeared on the scalp, for which he was bled to twelve ounces, and likewise by the inadvertence of the nurse lost a considerable quantity of blood from a small artery divided in one of the two incisions made into the scalp for relief of erysipelas. He felt easier next day, with exception, that cough, with mucous *ronchi*, troubled him. His mind continued sound and active, but his pulse gradually became weak and quick. A blister was applied to right side of the chest; he took sol. carb. ammon., and afterwards small doses of whisky; but he regularly lost strength, and died at 9 A.M. of the 23d.

On inspection thirty hours after death,—the scalp was found œdematous and ecchymosed, and pericranium much thickened; dura mater and brain healthy, with exception of portion of former, from above which bone had been removed, where lymph was effused. Sternum has sustained a comminuted fracture, about two inches from its superior extremity; clavicle is shattered near its attachment to scapula; and four superior ribs of right side are also fractured near their centres.

Remarks.—Where there is even *deep* depression of bone in *simple* fractures of the cranium, without any, or with only slight symptoms of compression, interference, so as to elevate the depressed bone, will not be required in children;[1] and delay, with the employment of measures preventative of inflammation, is advisable in the adult.[2]

In children, the consequences are often surprisingly slight, and by antiphlogistic treatment, the supervention of inflammation is prevented, the portion of bone generally soon rises to its normal situation, and health is perfectly restored.[3] In similar circumstances in the adult, the like treatment will often prevent or remove threatening symptoms; and it is only when they become intense, in opposition to remedial measures, that any interference with the depression will be justifiable.

Although the risks are infinitely greater in *compound depressed*, than in *simple depressed* fractures, still, unless the depression be *great*, and deep coma, convulsions, or other alarming symptoms be present, opinions appear to be in favour of delay, and the employment of measures preventative of inflammatory action. But where the depression is at all considerable, say more than the thickness of the cranium at the fractured part, and the fracture compound, then, although there be not *any* threatening symptoms present, if the depression can be elevated *without* the additional injury arising from the perforation by the trephine, we would consider interference advisable, as thereby one of the main sources of danger, the pressure of the sharp edge of the bone on the membranes or brain, is at once removed. Elevation in this manner is not always practicable, but where the depressed portion is in fragments, the use of Hey's saw, or the gouge, so as to remove as much of the adjoining bone as to permit insertion of the point of the elevator, will almost always enable us to accomplish our purpose.

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[1] Brodie. Med.-Chirurg. Transac., vol. xiv. p. 332.

[2] Abernethy. Surg. Works, vol. ii. p. 4, &c. 8vo, 1811.

[3] I lately had a patient, five years of age, who had a portion of the left parietal bone depressed without wound of scalp, to the depth of one-third of an inch; the irregular margin of the opening could be felt all around, and the depressed portion was so large, being about two and a half inches in length, by one and a half in breadth, that the left side of the head appeared much flattened, and the normal contour, of course, proportionally destroyed. The child vomited, was collapsed, and slightly comatose for a few hours; after reaction a few leeches and cold lotion were applied to scalp, several doses of calomel given, the diet restricted; no symptom worth noticing occurred, and in a few weeks the depressed bone had resumed its normal level.

Where a portion of the cranium is thrown deeply down, and comminuted into many fragments, as in the instance above related, and where the fracture is at same time compound, the fragments are not dead from the first, but they soon die, and, acting as foreign bodies, and often pricking or lacerating the meninges or brain, they are almost certain to induce inflammation and suppuration, and are therefore advised, by the first authorities in surgery, to be immediately removed.[1]

The depressed portion was in ten or twelve fragments, in this case; they were deprived of periosteum, and were merely held together by pressure on each other; their vitality was therefore destroyed, and their removal indispensable to the safety of the patient. Where, however, the fragments retain connection by periosteum, or with the vessels of the dura mater, they should be, if possible, elevated without separation, when sometimes they will reunite, and thus the dangers are avoided or diminished, by there either not being an opening, or a very small one in the cranium. In such instances as the one related, it will not be often necessary to make an additional opening by the trephine, the elevator being almost always available; but we doubt if the great dread of employing the trephine is altogether well founded. It is true, few patients recover who have been trephined; but when we see cases, where openings have been rudely made in the skull, as by the head impinging on the angle of a stone, by the stroke from the end of a quarrier's jumper, the fall of a piece of coal, or the kick of a horse, and the brain is wounded, and occasionally portions of it discharged; and when, after such injuries, we see the patients recover, we are led to question, whether the mortality following the employment of the indubitably dangerous, though comparatively gentle instrument, the trephine, be justly referable to that instrument; and while I do not overlook the danger of an opening additional to the first injury, and would not recommend the skull to be perforated, excepting for the most urgent reasons, I would remark, that the instrument is seldom used, excepting in the most severe cases; and that, if apertures can, with frequent impunity, be made in the skull by such modes of violence as I have mentioned, the deaths after trephining arise less from the additional injury by the instrument, than the effects of the conditions for which it is employed. The instrument was formerly far too often employed; and while I will not say it is not now sufficiently often had recourse to, I entertain the opinion, that it receives blame for which it is not strictly liable: I think information on the point might be obtained from carefully conducted experiments on the lower animals.

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[1] LISTON'S Elements; and also Prac. Surgery, p. 41.—VELPEAU, de l'Opération du Trépan, p. 62.—SIR A. COOPER'S Lectures, vol. i., pp. 304—308.

Severe as the other injuries were which this patient had suffered, they were not necessarily fatal, and therefore did not forbid the propriety of interference, even though the trephine had been required. It is, however, always proper, in cases arising from violence, and in which operations are required, to examine carefully that there are not other injuries present besides the one we are about to operate for, which will render it unavailing. In this instance, there was a risk of being misled, as the cerebral symptoms, from the injury done to the head, were primarily most intense—the patient scarcely complaining of the serious pectoral lesions; and it was not until considerable time after removal of the depression, that the pectoral symptoms, till then masked by the others, began to appear. The cerebral symptoms, which had been increasing, were immediately diminished by the elevation of the depression; but time was not afforded for the remote consequences of the fracture of the cranium to show themselves, the patient evidently dying from the injuries done to the bones of the chest and their contained organs.

CASE 4. *Compound depressed fracture of skull—Meningitis mistaken for fever—Trephine—Phlebitis—Death.*

On January 10, 1843, Mrs Sandiford, aged 26, received, in a scuffle, a stroke on back of head, from the extremity of a rod of iron used as a poker. The immediate effects of the blow were very slight, but two days after its reception, she had a rigor, followed by febrile disturbance, for which she was seen by a surgeon, who certified she had typhus fever, and in consequence, she was admitted into the fever hospital three days since. Two days after her entrance into hospital, suppuration was found to have occurred in the site of a wound on the scalp, where an incision was made, from which pus escaped. She was brought to the surgical wards to-day (the 10th). She has severe headach, hot skin, thirst, and a quick pulse; the wound is open, and the bone is felt bare by a probe.

I did not see her until the 11th, when the general symptoms had increased, and were accompanied with delirium.

By a careful use of the probe, I found that there was a small portion of bone depressed, and being convinced from the history, that the depression was the cause of all the symptoms, I immediately requested the opinion of my colleagues, who agreed with me in recommending the application of the trephine; this was instantly done, so as to include the depressed portion, which was found to consist of a piece of the external table about the size of the little finger nail, and a part of the internal table detached from it, still farther obliquely depressed than, and twice the size of the other. The dura mater was uninjured and healthy. Flaps of wound were laid down and lightly dressed, cold lotion applied to scalp, frequent small doses of calomel exhibited, and mercurial ointment rubbed in. On the 12th, she was perfectly coherent, pulse was 120, head was painful, and she had had a slight rigor. She was bled locally and generally, and next day was much relieved.

She continued to have occasional headach and rigors, and latterly cough. The mercurials were continued, the head was repeatedly leeched, and the gums became affected by the medicine. The rigors increased in frequency and severity, and were followed by profuse perspirations; the cough became more troublesome, and there were at different points loud mucous *ronchi*, dulness on percussion, and diminished respiratory sound. On the 20th, she had pain in right hip joint; afterwards, all the symptoms were aggravated, and she died at 1 P.M. of the 25th.

Inspection.—January 28. Flaps of wound not united; no diseased appearance on membrane or in brain; extensive adhesion of pleuræ; three abscesses in right lung, each containing about an ounce of pus; numerous smaller deposits of similar character in left lung; a large purulent deposit between glutæi muscles of right side; hip-joint healthy.

Remarks.—It is worthy of notice, that the immediate effects of a blow which was sufficient to fracture and depress a portion of the skull occasioned only slight discomfort. She informed me, that she was slightly stunned by the blow, that afterwards she complained more of general headach and corporeal languor, than of pain in the site of the wound, and that for a day or two she attended as usual to her ordinary avocations. I have repeatedly seen patients with deeply depressed compound fractures of the skull in full possession of their mental and corporeal functions, some of them for hours, and others for days after reception of the injuries.

The knowledge of such cases is important in a medico-legal point of view, as it may be feasibly argued, that a fracture said to have been inflicted at a certain time, could not have been so, else the person would have been more deeply affected at the moment, and more seriously soon afterwards, and that therefore the injury must have been inflicted at a period posterior to the one charged.

I am not aware whether the patient was seen by a surgeon immediately after reception of the injury, but the absence of general symptoms or local appearances, sufficient to point out the true state of the case, shows the propriety of most careful examination, even of apparently trifling wounds of the head, and likewise the necessity for most sedulously watching them for a considerable time. Neither do I know whether the surgeon who certified she had typhus fever, was made aware of the wound on the head; the rigor she had before his visit, and the symptoms at the time, viz. headach, hot skin, thirst, and quick pulse, were certainly apt to mislead, and I think his exemption from culpability or his implication, turns on his knowledge or ignorance of the previous blow, and consequent wound on the head. Not so defensible is the supposed corroboration of the correctness of his, or some other person's diagnosis, by the statement, that she had the ordinary typhoid eruption, which, upon more skilful examination, was found to be the areolæ of flea bites.

Supposing the fracture to have been at the moment detected, the question arises, What would have been the proper course to have pursued? Should the ordinary treatment for averting meningitis, &c., have been trusted to in the first place, or should the depression have been immediately elevated? Considering the kind of weapon which caused the fracture; the consequent punctured, oblique depression discoverable by the probe, which made it almost certain, that a sharp or angular portion of bone, which was much more likely to irritate than a broad piece, pressed on, or wounded the membranes or brain; we think that the better course would have been immediate interference by the elevator alone, or assisted by the gouge, or if these were inadmissible, or failed, by the trephine, so as to elevate the depressed piece or pieces of bone. Our conviction of the propriety of immediate operative interference in such a case as this is strengthened when we reflect, that in punctured fractures of the skull, the brittle internal table is commonly more depressed, and broken into a greater number of fragments than the softer external one, and that the fragments, being usually deprived of vitality, are sure to be injurious by acting, immediately or remotely, as foreign substances. And we are farther supported in our opinion, by a knowledge of the every day observed fact, that even the tissues on the surface of the body will not bear the pressure of a pointed foreign body without inflammation and suppuration supervening, and assuredly far less will the highly irritable, and infinitely more important meninges and brain, and therefore we think, that by far the safer practice in such a case as this, is at once to simplify it, by converting the depression into an uncomplicated perforation or opening in the cranium, in our opinion, the less serious injury.

Believing that in such circumstances as existed in this instance, there was little probability of *preventing* meningitis by antiphlogistic treatment, previous to elevation of the depression, we would have been acting irrationally in attempting, by similar measures, to *remove it*, while its cause *remained;* and though, as a general rule, we think there is far less chance of recovery when the trephine is used after, than before inflammation has set in, still, in this instance, the removal of the depressed fragment was followed by a distinct amendment.[1]

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[1] I recollect having a case in which a fracture was produced in the cranium of a boy three years of age, by the stroke of the point of a collier's pick. Delay was agreed

In how far the delay in operating influenced the production of phlebitis, of which the patient died, we have not positive evidence; but general reasoning is in favour of the conclusion, that the risk of that disease being induced, is in exact proportion to the degree of irritation and inflammation occasioned, and therefore the risk of its supervention is an additional reason in favour of primary operative interference.

There is reason to believe, that the phlebitis existed previous to the operation; she had a rigor before her admission into the fever hospital, and another on the 12th, the day after being trephined. At first the rigors were not severe, and the perspirations and yellow skin, so characteristic of phlebitis, were not present.

The symptoms not being of a definite character, we would not have been authorised to have postponed the operation; but wherever the combination of long and severe shivering fits, followed by drenching sweats, jaundiced skin, sunken countenance, and complications, as in the case of articulations and internal organs, exist in connection with a wound or other injury, we have almost positive proof, that phlebitis, or that morbid condition in which purulent deposits occur, has set in, and in such circumstances we should not operate, as there is next to a certainty that the affection will progress, and in so far as our hospital experience teaches, will assuredly prove fatal.

Neither the veins of the scalp, the sinuses of the brain, nor the veins in the diploe of the cranium, in the latter of which it has been asserted phlebitis consequent on fracture often arises, were examined after death; but the purulent deposits in the lungs, and in the muscles of the hip, with the absence of any cerebral lesion to account for the death, showed unequivocally, whatever may be the difficulty of explaining their mode of production, that they were the immediate causes of the fatal result.

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ARTICLE II.—*Contributions of Facts to the Weights of the Fœtal Viscera. By* ANDREW ANDERSON, M.D., *Anderson's University, Glasgow.*

The following results of an examination of the weights of the fœtal viscera, made by the kind permission of Dr Johnson, in the

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on, energetic preventive measures strictly employed, and the case narrowly watched. For a few days there was a perfect calm, when *suddenly* threatening appearances presented; the trephine was *now* immediately applied, and a pointed depressed piece of bone removed; but the surface of the exposed dura mater was covered with pus, the disease progressed, and the boy died. On dissection, the entire left half of dura mater was covered with a thick layer of purulent matter. The operation was here performed *instantly*, on bad symptoms *showing themselves;* but there had been undoubtedly inflammation in *concealed existence*, strongly indicating the danger of delay in such circumstances.

Dublin Lying-in Hospital, during the summer of 1842, may perhaps be useful.

I. OF THE LUNGS. (In 25 cases in which they were healthy.)

1. *Absolute weight in grains and proportion to one another.*

No.	Left.	Right.	Proportion.	No.	Left.	Right.	Proportion.
a. Lungs which had not breathed.							
1	396	530	1 : 1·34	2	416	496	1 : 1·19
3	278	320	1·11	4	133	192	1·44
5	350	416	1·19	6	372	495	1·33
7	235	292	1·24	8	244	300	1·23
9	93	113	1·21	10	385	470	1·22
11	538	656	1·22	12	200	260	1·30
13	380	500	1·31	14	188	242	1·23
15	320	383	1·20	16	466	550	1·18
17	247	295	1·20	18	200	265	1·32
b. Lungs which had breathed.							
19	406	500	1·23	20	266	350	1·31
21	522	560	1·07	22	570	634	1·11
23	253	303	1·20	24	260	270	1·04
25	113	138	1·22				

The average proportion of the right to the left lung is therefore as 1·22 to 1.

2. *Weight of the lungs compared to that of the heart, in the same 25 cases, arranged in the same order.*

No.	Lungs.	Heart.	No.	Lungs.	Heart.	No.	Lungs.	Heart.
a. Lungs which had not breathed.								
1	4·3	to 1	2	2·8	to 1	3	1·9	to 1
4	2·9	„	5	3·	„	6	2·4	„
7	3·9	„	8	3·	„	9	3·4	„
10	3·	„	11	4·5	„	12	2.6	„
13	2·7	„	14	1·5	„	15	3·5	„
16	3·1	„	17	2·8	„	18	2·	„
b. Lungs which had breathed.								
19	2·6	„	20	2·6	„	21	3·2	„
22	3·7	„	23	2·4	„	24	3·2	„
25	2·2	„						

The ratio therefore is

For lungs which have not breathed . . . . . 3· : 1
For lungs which have breathed . . . . . 2·8 : 1

both lungs being weighed together.

Congestion and inflammation of the lungs will of course increase their comparative weight. Thus,

In 3 cases where the lungs had not breathed, but were inflamed or congested, the ratio was . . . . 3·5 : 1
In 4 cases where the lungs had breathed, but were inflamed or congested, the ratio was . . . . 3·6 : 1

In conducting these researches, the heart was carefully washed before being weighed, so as to remove all blood from its cavities. The result of the comparison of the relative weights of the lungs before and after breathing, is the reverse of what might have been expected, but the induction is evidently too limited. It may, however, serve to form part of a more extensive one, and meantime certainly warrants the conclusion, that in individual cases the weight of the lungs, as compared to that of the heart, will not form a just ground for concluding as to whether respiration have taken place or no.

3. *Weight of lungs compared to that of body.*

No.	Weight of body.	Weight of lungs.	Ratio.	No.	Weight of body.	Weight of lungs.	Ratio.
			a. Lungs which had not breathed.				
8	4¼ lb.	544 grs.	54 : 1	9	1¼ lb.	206 grs.	42 : 1
10	5¼	855	43	11	5	1194	28
12	3¼	460	49	13	7	880	56
14	5½	430	89	15	4½	703	45
16	8¼	1016	56	17	4¼	542	55
18	3½	465	53				
			b. Lungs which had breathed.				
23	4½	556	57	24	2¼	530	29
25	2¼	251	72				

The ratio therefore is about 52 : 1 for the first, and 52⅔ : 1 for the second. This would probably have been different had there been a larger induction.

It ought to be noted, that Nos. 4, 7, 8, 9, 17, 24, 25, were fœtuses between the seventh and eighth months.

II. OF THE THYMUS GLAND.

1. *Absolutely, and compared to body.*

No.	Weight of thymus.	Ratio to body.	No.	Weight of thymus.	Ratio to body.
		a. Where the lungs had not breathed.			
8	60 grs.	1 : 496	10	56 grs.	1 : 656
11	60	583	12	80	279
13	360	136	14	137	281
15	68	463	16	150	385
17	72	413			
		b. Where the lungs had breathed.			
23	70	450	25	73	215
		c. Where the lungs had not breathed, but were congested.			
26	144	364	27	65	484
28	282	141			
		d. Where the lungs had breathed, but were congested or inflamed.			
29	48	547	30	50	1260
31	70	550	32	120	377

Hence the ratio is,

a. 1 : 410. *b.* 1 : 332. *c.* 1 : 329. *d.* 1 : 693.

2. *Compared to the lungs, under the same head as above. Thymus to lungs, as,*

No.		No.		No.		No.	
a. 1	1 : 18	*a.* 12	1 : 6	*b.* 20	1 : 6	*d.* 29	1 : 30
2	5	13	2	21	10	30	16
3	9	14	3	22	9	31	15
4	15	15	10	23	8	32	12
5	7	16	7	25	3	33	4
6	7	17	7	*c.* 26	10	34	13
7	14			29	19		
8	9			28	8		
10	15						
11	19						

Hence the ratio is

a. 1 : 9½; *b.* 1 : 7; *c.* 1 : 11; *d.* 1 : 15.

III.—OF THE LIVER AND SPLEEN.

No.	Weight of Spleen.	Weight of Liver.	Ratio of Spleen to Body.	Ratio of Liver to Body.
		a.		
8	160	1754	186	17
9	34	710	257	12
10	611	2240	60	16
11	254	2165	137	16
12	...	978	...	23
13	124	2612	395	18
14	64	1748	601	22
15	156	1547	202	20
16	210	2447	275	28
17	220	1910	135	15
		b.		
23	75	821	210	19
25	38	1138	829	27
		c.		
26	160	3138	328	16
27	601	2488	52	12
28	216	3522	316	19
		d.		
29	154	1774	170	15
30	150	2440	420	26
31	551	2140	69	18
32	63	1436	722	32

Hence the ratio is

Spleen to body,	*a.* 1 : 249;	*b.* 1 : 519;	*c.* 1 : 232;	*d.* 1 : 345.
Liver to body,	1 : 18;	1 : 23;	1 : 16;	1 : 23.

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ARTICLE III.—*On the Stethoscopic Examination of the Pregnant Uterus.* By ANDREW ANDERSON, M.D., *Anderson's University, Glasgow.*

The following observations refer to the employment of the stethoscope in examining the pregnant uterus:—

1. How early in pregnancy can the pulsations of the fœtal heart be heard? On 14th August 1842, I examined a woman in whom

the uterus was felt enlarged upon examination per vaginam, but formed no tumour above the pubis. She had weaned her last child on the 25th of March; exactly a month after this, that is, on the 25th of April, she menstruated, and the flow continued for a week. The pregnancy had then lasted for *three months and a half at most.* The fœtal heart was heard distinctly by a friend as well as by myself. We guessed its frequency at 160 or 170.

At early periods in pregnancy, the detection of the pulsation of the fœtal heart is an uncertain affair, though, when it is heard, it at once renders all other proof of the presence of a fœtus unnecessary.

2. At the full time, just before or during labour, are these pulsations always audible? I examined 180 women, and in 12 failed to hear them; in these 12 cases, and in these only, the child was born dead. In most of them the heart was never heard to beat, and the fœtus had been evidently dead for some time; in others, heard at first, it became afterwards inaudible; and the child had plainly died in the birth. I conclude, that if on a careful examination, there be no pulsation heard, the child may be confidently held as dead; the importance of this assurance in cases of lingering labour, is evident. But *the examination must be adequate*—made by one who has been accustomed to use the stethoscope, and to use it to hear those intra-uterine pulsations,—by one who is allowed carefully to examine every region of the belly in perfect silence, and who repeats the investigation thrice at least before coming to a conclusion. But in the great majority of cases the sounds are heard the instant the stethoscope is placed on the abdomen of a woman at the full time; that is, if it be placed in the proper region, the right or left iliac fossa, or a little higher up.

3. A pupil of M. Dubois published a thesis, some years ago, in which he thought he had proved that the locality in which the fœtal heart is heard to beat will nearly infallibly point out the position of the child in utero. Thus, if it be heard low in the belly, it is a head presentation; if high up, the nates or feet present; if across the whole belly, the shoulder or arm: the conclusion being obviously founded on the supposition, that the part of the uterus with which the chest of the child is pressed into contact will be that where its heart will be most distinctly heard. To a certain extent the idea is correct; thus out of 169 cases of head presentation, the maximum intensity of the pulsations was above the umbilicus in five only; but this is quite enough to render the whole nugatory as a means of diagnosis, for be it observed, that these five observations were made not before labour, when the child often moves about from one position to another, but after labour had begun, and when the more certain vaginal examination gave sure knowledge of the posture of the head, now partly engaged in the pelvis. Of three breech cases, the maximum was indeed above the umbilicus in two, but below it in one. In three cases of arm pre-

sentation, the sounds were audible across the whole lower part of the belly; but then in several cases where the position of the child was normal, the same thing was observed.

Before labour has begun, the presentation being natural, the maximum is often in the mesial line, or shifts from side to side; but when the head is fairly engaged in the pelvis, its position may always be known by observing where the heart's sounds are best heard. If the position be the first, the occiput being turned to the left acetabulum, the back of the child lies against the left anterior wall of the uterus, and the maximum sound is there; while the child's breast is separated from the right side of the uterus by the liquor amnii. If the position be the second of Nægelè, (the occiput towards the right sacro-iliac symphysis,) the maximum is to the right, and far back towards the mother's loins; but as labour advances in the second position, and the occiput turns into the direction of the right acetabulum, the sounds advance towards the linea alba, where they are most loudly audible in both cases, as soon as the occiput, preparatory to the exit, lies under the pubis. In several cases, I have traced the rotation of the head in the second position, and found the stethoscopic indication to correspond with that obtained by the finger per vaginam. In 164 cases, there were four only in which the sounds were all along best heard in the mesial line; in 100 they were audible on the left; in 60 on the right side, —a proportion (5 to 3,) which agrees with the observations of authors on the comparative frequency of the two positions of the occiput.

In three cases of face presentation, where the chin was turned to the left acetabulum, and which in fact are cases of Nægelè's second position, in which rotation has not taken place, and in which the head has been thrown back on the shoulders, the sounds were heard to the *left* side, higher up than usual, and *very loud*. The reason is obvious: had it been an occipital presentation, the maximum would have been to the right side, the child's back being forced into contact with the uterus there; but as the head is in a face presentation thrown back, the consequence is that the back of the child is separated by liquor amnii from the uterus, and its breast forced against the left wall; therefore the sounds are heard over that region, and they are much clearer here than in any other case, because we place the stethoscope immediately over the region of the heart. Thus also in another case, where the face presented, while the brow was felt towards the left acetabulum, the heart's action was heard to the right side. It may, however, be remarked in passing, that the beat of an infant's heart is audible over most of its body; if the stethoscope be placed on the thigh of a new-born child, it is distinctly heard.

4. If a careful examination be made of the belly by the hand, the position of the child can thus be discovered in most cases,—in 60, as I have found, out of 88; and indeed we can frequently tell

whether it be a first or a second position, by simply asking the mother on which side she feels the child's motions most lively; in 46 out of 73 cases, she fixed upon that side towards which the front of the fœtus was turned.

5. I am persuaded that if attention were paid to the matter, the presence of twins might almost always be detected by the stethoscope. I had an opportunity of examining four cases, and in two made the diagnosis of twins, from hearing *two maxima* separated by very weak sounds; in the third case, examined before I began to pay particular attention to the matter, the diagnosis was not made, but it was remarked as curious, that the sounds were audible on both sides; in the fourth, there was only one maximum, *but one of the fœtuses had been for some time dead.* In the first case, one maximum was high up on the right, and the other low on the left side; a head presented first, then retrograded, and the children were born as in the first case. In the fourth case, the maximum was high up on the right; both children presented the head, but the dead one was born first. In the first case, the two hearts beat with equal rapidity,—from 140 to 160; in the second, the pulsations to the right were 140 to 148; those on the left, 164 to 172 in a minute; and when a day old, the infants presented a like difference in the rapidity of the heart's action, the pulse being in the child which had presented the breech 108; in the other, 136.

6. It is incorrect to state, as has been done, that numbers such as these give twice the real rapidity of the pulse of the child in utero; such an opinion has been founded on the examinations made of the beats in a prolapsed funis. Nothing can be more fallacious; and the best proof of it is, that where you have an opportunity of counting the pulsations in a cord full and uncompressed, (which it certainly is not in these cases,) they are exactly synchronous with the ventricular systole. This opportunity is given by the occurrence of the funic *souffle*, or bellows murmur, in the umbilical arteries,—a phenomenon which I have thrice observed. The proof that this bellows murmur is in the cord, and not in the heart, is that on examination of the child's chest instantly on its expulsion, I uniformly found the sounds clear and pure; but indeed this evidence is scarcely needed, for the *souffle* is heard locally only, and its maximum does not correspond with that of the cardiac double beat.

It is a bad sign of the vigour of the child still unborn, if the pulse fall to much below the number given above; in a child dying in the birth, they usually fall in number as well as loudness, till their final extinction; and I have in one instance seen them fall remarkably in a fœtus half-poisoned by ergot given to the mother; they were at 144 before the dose was taken, and gradually fell to 50 or 60 only *in the minute.* The child, a small-sized girl, appeared much exhausted, but was revived by the warm bath, and her pulse soon rose to the natural standard. Now, in this case, the ergot had produced continuous and most energetic uterine action, and it might be said that this, and not the poison, was the cause of the slowness of the child's pulse; but that the latter was the real agent, seems proved by its producing a similar effect on the mother; her pulse rose much indeed during the violent labour pangs, but whenever she was delivered, it began to fall, and, having been 104 before she took the ergot, fell to 90, then 80 irregular, then to 68, also irregular, even when she was asleep two hours after.

7. It has been said, that when the child dies, the placental murmur ceases to be audible. This is not true: I have heard that sound very loud, and yet the child has been born putrid a few hours after. In one case, however, there was no murmur detected, and the placenta proved to be gorged with bloody coagula, the fœtus being dead; in another, where the placental *souffle* was very weak, the placenta was remarkably exsanguine. In one case, the child being alive, there was observed a well-marked *fremissement*, on applying the hand to the abdomen over the region where the placental murmur was most loudly heard.

8. If the stethoscope be kept in contact with the infant's chest, from the moment of its exit from the vagina, the phenomena of the first respirations can be easily traced; and it is most interesting to observe, that the first sound heard in the yet solid lung, is precisely the same as that heard in the posterior parts of the chest in typhoid congestion of the highest degree,—a disease in which the pulmonary substance becomes fleshy and solid, not full as in hepatization, but as it has been not inappropriately called, *splenified;* in short, has as it were returned to the state of the fœtal lung, which would afford a much more exact simile than the spleen does. The sound is "raucous," a hoarse murmur quite different from that of healthy breathing, but which becomes gradually more and more like it, though mixed with crepitation depending on the presence of fluid in the yet imperfectly expanded tubes, and gradually giving place to the clear puerile respiration.

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ARTICLE IV.—*Exostosis, and Fungus Hæmatodes of the Femur.* *By* JAMES CHRISTIE, M.D., *Huntly, Aberdeenshire.*

A. G., aged 40, consulted me in the beginning of March of 1843, on account of an immense swelling of his right thigh. From the condyles of the femur, up to within one inch and a half of the lesser trochanter, it presented the appearance of a large oval tumour. It was perfectly hard to the touch, over all but one point, corresponding to the external condyle, where there was an indistinct feeling of fluctuation. From the patient, I obtained the following short and unsatisfactory particulars: That for upwards of twenty years, there had been swelling gradually increasing, but that as he had little, if any pain, except when he excited himself unusually, or as he stated, on a change of weather, he attributed these pains to rheumatism, and took no notice of the tumour. About this time, however, he began to experience sore pain, especially in the part where the indistinct fluctuation existed. I directed the application of poultices, in hopes that some pus might be formed; in about a week, I introduced a lancet into the place, but only bloody ichorous matter flowed. The poultices were continued, and repeated openings made, but still no pus followed. The pain now became excruciating, and was only relieved by large doses of solid opium. As no *cure* could be hoped for, and as his general health began to give way under severe and constant pain, I proposed the only means of giving relief, viz. the amputation of the limb, but to this he could not make up his mind, and as I could do little or nothing for him, I became less regular in my visits. He now consulted a practitioner at some distance, who seemed to take a more favourable view of the case, and to give him some hopes of being able to save the limb; but after seeing him again at a subsequent stage, he altered his opinion in so far, but still dissuaded him from the operation, stating, that he feared from the number and size of the vessels supplying such a mass, it would be impossible to stanch the bleeding, and that if I succeeded in that, he would certainly either die in a few days after the operation, or have a return of the disease in the stump. Matters went on in this way for about three months, getting gradually worse, but still he could not be induced to submit to the operation. About the middle of August, however, a large fungus burst forth from the place over the condyle, of a genuine cerebriform appearance, accompanied with a sanious discharge of intolerable fœtor. Such an appearance but too distinctly told what would be my poor patient's fate ere very long, if he still declined availing himself of the only chance of relief. Soon an active hemorrhage, followed by a second, induced him to hazard the operation, which accordingly I undertook on the 2d September, assisted by my friend Dr John Robertson, and my brother. As to the operation, I think I was sufficiently justified in executing it, as the inguinal glands were quite soft, his pulse, though weak, being regular, and above all, by the knowledge of the fact, that unless the knife were used, he would die a miserable and painful death. On raising him from his bed to the table, an immense gush of blood occurred from the fungus; six times as much, at least, as he lost during the operation. I lost not a moment, but completed it by an anterior and posterior flap, sawed the bone one inch and a half above all of the apparently diseased parts, tied eight vessels, applied the necessary dressings, and had him put to bed. The removal of a mass, such as the accompanying description will show this to have been, had, as might be expected, a powerful effect on his nervous system, and caused syncope before he was laid in bed. He soon rallied, however, and from the first went on towards a good, and not over tedious recovery; in six weeks after the operation, union was complete, and his health totally restored.

I may here mention, that about three years ago, I treated him for a chronic enlargement of one of his testes; it seemed not at all allied to malignant disease, having no pain even on rough handling. It was only slightly reduced by active general and local treatment, including iodine, mercury, and blistering.

The following is Dr Kilgour's opinion of the nature of the tumour, from a minute examination, and chemical analysis of its substance. It now forms a part of his museum.

" ABERDEEN, 12*th October* 1843.

"MY DEAR SIR,—The tumour which you sent me for my museum, weighed 11¾ lbs. avoird. It was of an oval shape, having the femur in its long axis; its long circumference being 25½ inches, and its short 21½ inches. It approached close to the condyles. It was equally solid and impenetrable to the knife in all parts, except at the lower and outer side, where a bloody fungous-like matter admitted the passage of a probe to a great depth. I divided the tumour in its long diameter, the saw being carried through the centre of the femur longitudinally. The divided surfaces were not quite so hard under the saw as bone. In the divided surfaces, the outline of the two halves of the femur was very distinct, the cancellated portion, as well as the cortical, being reduced in size, so that the femur appeared more of the size of a child's than of that of an adult. It had no medullary canal, the centre being filled of closely packed cancelli. To the nail of the finger, the portion of tumour outside the femur was as hard as was the central structure of the femur itself.

"Immediately above the condyles, a soft bloody fungus had entirely usurped the place of the cancellated structure of the femur, filling the whole space within the wall of the bone from the tumour to the cartilages, and had made its way outwards through the femur and part of the lower end of the tumour, to the surface of the limb.

"An analysis of a portion of the tumour when dried, as made by a practical chemist, gave,

Earthy matter, ...	63
Animal do.	37
	100

which is rather less of the earthy matter than exists in healthy bone, according to the table of Schreger.

"I requested my friend, Dr Dickie, who is practised in the use of the microscope, to examine it, and he reports to me, 'It principally differs from healthy bone in this, the Haversian canals are longer, more numerous, and tortuous, than in healthy bone.'

"I regard the specimen as an example of exostosis, (*osteophyte* Cruveilhier would call it) originating in the periosteum. As the swelling has been, as you say, above twenty years in acquiring its present bulk, I am inclined to hold that the fungus hæmatodes is an accidental circumstance, and has only existed during the last nine months, when, as your brother states, the man complained of pain.

"As the fungus hæmatodes, therefore, may be the effect of the local irritation, and not the result of any constitutional taint, the chances are in favour of the patient's not having any return of that disease. Had it been otherwise, the probabilities would have been, that it would have appeared in some other part, however necessary, for temporary relief, the operation of the removal of the limb might have been.

"I do not find any preparation exactly similar in the catalogues of the museum of the College of Surgeons, Edinburgh, nor of Guy's Hospital, nor in the valuable catalogue of the College of Surgeons of Dublin, by Dr Houston.

"The preparation confirms what I have before observed, that abnormal bony deposit takes place in the external periosteum, and that fungous, or cerebriform tumours connected with bone, always originate in the internal structure, probably in the medullary membrane, and that when occurring in the vicinity of joints, the cartilaginous coverings of the articulations are not involved in the disease. I have found where soft cancer, or cerebriform disease, had destroyed the head and part of the shaft of long bones, the articulating cartilage separated and perfectly free from disease. The late microscopic discoveries of the structure and mode of junction of cartilage and bone, would perhaps afford some clue to the causes why cartilage becomes so liable to the adhesive and ulcerative inflammation on its free aspect, (the synovial covering must not be omitted in the account here), and so little liable to the malignant inflammatory action which often occurs in the bone which it covers.—Very truly yours,

"A. KILGOUR."

"DR CHRISTIE."

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ARTICLE V.—*Note on the Prevailing Fever. By* WILLIAM ROBERTSON, M.D. Edin., F.R.C.P.E., *and Assistant Physician to the Fever Hospitals of Edinburgh.*

Questions regarding the nature of the fever at present prevailing in Edinburgh and other parts of the United Kingdom, divide the opinions of medical observers. Some maintain, with Professor Henderson,[1] that the prevailing epidemic differs totally from typhus fever; others regard it as a mere variety of that disease; while Dr Cormack, though he carefully abstains from giving an unqualified opinion in the mean time, is evidently inclined to regard it as not only essentially different from typhus, but as a mild and modified form of what is commonly termed "Yellow fever," and even hints that it may be possible to prove that it is an *imported disease.*

The absence of the measly-like eruption in the great majority of cases has been much insisted on as an argument in favour of the first opinion. A few cases *do*, however, certainly occur, (and one such has been put on record by Dr Cormack,)[2] in which the so-called "typhoid exanthema" presents itself along with the unequivocal symptoms of the present epidemic; and as such cases are interesting, (were it only from their rarity,) I beg to communicate the following, which have lately fallen under my own observation in the New Fever Hospital.

CASE 1. Betsy Gibb, aged 20, was admitted on the 9th Nov. 1843, (*6th day of the disease.*) She is married, and is now in the fifth month of pregnancy. Her previous health has been excellent, and her habits temperate. She complains of headach, thirst, retching, cough, a stitch in the left side of the chest, and pains in the back and limbs, preventing sleep and motion. The face is flushed; the breast, back, and arms are covered with a rose-coloured slightly elevated eruption, resembling measles; the eruption is less distinct upon the cheeks; there is no injection of the conjunctivæ. The pulse is, 20, large, and strong; the tongue is covered with a white fur; the respiration is hurried; the expectoration is scanty, consisting of clear viscid mucus. The lower third of the left side of the chest is dull on percussion, and respiration is faintly audible there. —*Venesectio ad ℥xx.—Post v. s. sumat haust. c. sol. mur. morphiæ gtt. xl.*

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[1] HENDERSON. Edin. Med. and Surg. Journal for January 1844.

[2] CORMACK. Nat. History, Pathology, and Treatment of the prevailing Epidemic Fever. London: 1843. *Vide*, p. 73.

The blood drawn was cupped, and buffy. On the 10th, the chest affection was much relieved; and the eruption was paler. On the 12th, the eruption had nearly disappeared; on the 13th, profuse sweating took place, with abatement of all the symptoms. A relapse occurred on the 19th; abortion followed on the 20th. Convalescence was retarded by another pleuritic attack; some desquamation of the cuticle was observed; about the 7th December, the patient was dismissed as cured.

At the same time with this patient, another named Jessie Cleghorn, was in the ward. In her case, (which was a severe one of unequivocal typhus,) the same measly eruption was observed; no amendment was apparent till the 20th day, from which period she steadily convalesced.

CASE 2. Mrs Hay, aged 21, was admitted on the 20th Dec., (*6th day of the disease.*) She is married, and is a sister of the patient Gibb. Her symptoms greatly resembled those of her sister, but the chest affection was confined to the bronchial tubes. The measly eruption was well marked, coalescing into patches upon the upper part of the chest; there was none upon the face. It began to fade on the 21st; critical sweating took place at night; and on the 22d, the exanthema was nearly gone, and convalescence established. With a view to the prevention of a relapse, sulphate of quinine was prescribed, and up to the present date (Jan. 4), convalescence has been undisturbed. She still has pains resembling those of chronic rheumatism.

CASE 3. M'Fadyen, aged 8, was admitted on the 29th Nov., (*3d day of the disease*). This girl's case was mild, and no relapse was observed while she remained in the hospital, from which she was discharged on the 25th Dec. She was again taken ill on the 27th Dec., and was readmitted on the 30th, when her symptoms were, flushing of the face, languid expression, and injection of the conjunctiva; dry warm skin, with much measly mottling; p. 130, strong; resp. 30 in a minute; slight cough; no *râle* or dulness on percussion. Severe headach; much nausea, and ineffectual attempts to vomit. Abdomen tympanitic, and painful when gentle pressure is employed. Leeches were applied to the temporal regions. On the 1st January, the symptoms were somewhat less urgent, but the eruption was still visible. Sweating took place at night, and on the 2d, decided amendment was observed; no trace of the eruption was visible on the 3d, and at the present time (the 4th), although some excitement of the circulation continues, there is no local uneasiness complained of.

[It is of importance to have such cases as the above placed on record. Regarding their nature, however, we are inclined to regard them as *short cases of typhus.*—J. R. C.]

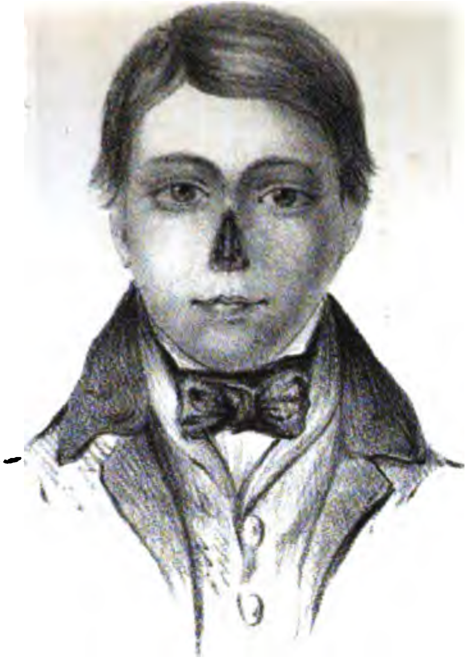
ARTICLE VI.—*A Case of Restoration of a Lost Nose, with some Suggestions calculated to render the results of the Rhinoplastic Operation more satisfactory.* By WILLIAM KEITH, M.D., *one of the Surgeons to the Royal Infirmary, Aberdeen.* (With a Plate.)

In every case which I have had an opportunity of examining, at an interval of a few months after a lost nose has been restored, I have been much disappointed with the appearance of the new member. In place of a full, round, prominent organ, plump and vigorous in its aspect and functions, I have only found a skinny, shrivelled appendage, out of all proportion small, in comparison with the other parts of the face, into which it had been engrafted, covering an opening occasioned by the ravages of disease, no doubt disagreeable to look at, but really in itself presenting a perfect eyesore, scarcely sufficient to compensate one for the amount of sharp suffering which has to be endured in passing through the various stages of the rhinoplastic operation. The best I ever saw, was one restored by Mr Liston, but even it was not above half the size of what nature would have planted on a field of such extent as this man's face presented.

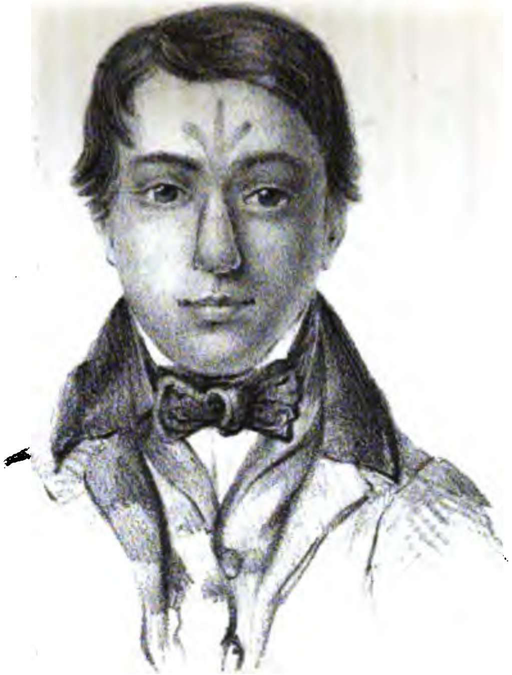
In proceeding to operate in the case,—the history of which I here annex,—I resolved to obviate the above objection, conceiving that the stinted growth and shrivelled state of the new nose was owing to the very inadequate nourishment which it received through the vessels that innosculated in the cicatrix all round, these affording the only channel of communication between the circulating system and the new organ. It occurred to me, that a far more vigorous supply of blood could be permanently secured, by allowing the connecting slip between the nose-flap and the forehead to remain undivided: the vessels of this slip sufficing to keep the flap alive, until union of parts, and innosculation of vessels takes place, will assuredly form a far more ready inlet for after nourishment, than will these feeble newly formed vessels, if left to their own unaided powers. Supplied from both sources, I concluded that the nose might have some chance of keeping pace with its neighbours.

It will be seen, that there was no difficulty in obviating the very

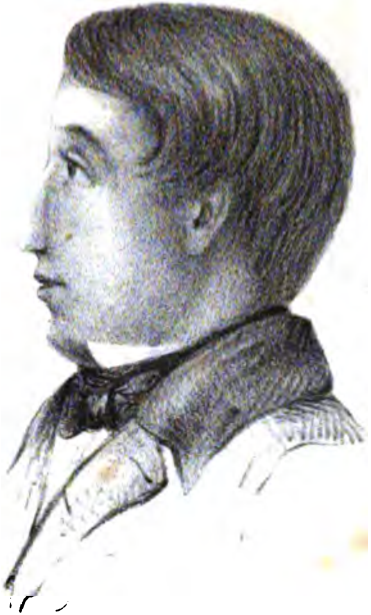
Dr Keith's Case of Restoration of lost Nose



Appearance of Donald MacKenzie's face
previous to operation
(The effect of Lupus.)



Front view of face at this date.
March 1st 1841.



Side view of the same

evident objection, that a loose slip between the eye-brows would be an ugly appendage,—the skin at the root of the nose and the under surface of the slip, where they were opposed to each other, having been rawed by a strip of cantharides plaster, adhered very readily, and the usual after-contraction in the cicatrix flattened down the slip, till it was little visible.

Donald M'Kenzie, weaver, aged 17, admitted October 1, 1840, has lost his nose completely, from the destructive ravages of lupus. The edges at both sides are rounded and healed, but the process of ulceration is still going on above the centre of the upper lip, where the columna nasi had once been inserted; the tongue is much loaded; the general health is not much complained of. He states that the disease in his nose first began when he was twelve years of age, and that it has never been whole since. He was ordered a three-grain calomel pill every second night, and a senna draught every alternate morning. The chloride of zinc paste to be applied to the parts at present in a state of ulceration for four hours, and bread poûltice subsequently, until the slough shall have been thrown off.

October 12. Tongue clean; the sore left by the chloride of zinc contracting and skinning over. To take five grains of blue pill, and the same of compound rhubarb pill, every second night.

October 25. The ulceration entirely cicatrized.

October 27. Pared the edge of the nasal opening; raised a large flap previously marked out, and very much of the shape of the ace of spades, from the forehead, leaving the point attached at the root of the nose, by a thick strip fully one-third of an inch in breadth. Having waited until all bleeding had ceased, the flap was brought down by twisting the connecting strip, and secured by two stitches of the interrupted suture on each side, to the edges of the cheeks. Supporting the alæ by dossils of lint dipped in oil, made the edges of the void left in the forehead to approximate in some degree by the help of one stitch, and covered the whole with warm water dressing and oiled silk. The temperature of the closet to be kept at 72° of Fahr. Thick gruel to drink as his only food.

October 28, 8 A.M. He has passed a good night; very little oozing from the wounds; temperature of the flap almost natural; colour bluish; pulse 72; tongue clean and moist; bowels slow. 8 P.M. Complains of general uneasiness; pulse 84, hard; tongue dry.

℞. Chloridi hydrargyri, gr. v; pulveris opii, gr. j; confectionis aromaticæ, q. s. ɱ ft. pilula statim sumenda.

℞. Misturæ salinæ, ℥x; vini ipecacuanhæ, ʒij; solutionis muriatis morphiæ, ʒss. ɱ ft. mistura. Capiat cochleare magnum omni horâ.

℞. Olei ricini, ʒvj; aquæ cassiæ, ℥j. ɱ ft. haustus, cras mane sumendus.

October 29, 12 *noon*. He slept comfortably, perspired freely, and has had a copious evacuation of his bowels; pulse 80, softer; tongue clean, and more moist; nose still bluish, but warm. 8 P.M. Feels quite easy now; pulse 76, and soft; tongue moist; bowels twice moved since noon; nose quite warm, and nearly of the same colour as the face.

October 30, 12 *noon*. He passed the night comfortably; pulse 76; tongue rather dry, but no urgent thirst; bowels moved sparingly this morning; the new nose looking very natural, and preserving its temperature; removed the plugs from the opening into the nose; withdrew all the stitches; found adhesion of the nose perfect throughout; it maintained its firmness and prominence without the aid of a plug; the wound in the forehead much contracted, and filled with effused lymph, almost to the level of the surrounding skin; slight erythema on one cheek. The cheek to be smeared with white oxide of zinc ointment, as the exciting cause seems to be the purulent discharge dropping on it from the wound in the forehead. 8 P.M. Cool and comfortable; pulse 72; bowels have moved twice; the eruption on the face already gone.

October 31. Was restless last night; pulse 72; skin soft; tongue rather dry; bowels open, but stool dark-coloured. To have a blue and a rhubarb pill at bed-time.

November 1, 10 A.M. In the early part of the night, the right flap of the nose became detached, which circumstance made him nervous, and has hindered him from getting sleep; he feels well however; pulse 60; bowels freely opened; the circulation seems very languid in the nose to-day; it comes out on inquiry that the fire had gone out, and the night being intensely cold, had so chilled the nose, that it has not even yet recovered its heat. Hot water dressing to be diligently applied. Two ounces of wine allowed. 8 P.M. The temperature of the body has been quite natural through the afternoon, as also the colour and temperature of the new nose; pulse 72; rawed the edge of the right ala and corresponding cheek, and took a fresh stitch of them to each other.

November 2, 12 *noon*. He has passed a good night; nose warm, and of a healthy colour; pulse 72; bowels open; feels well. Repeat the wine.

November 4. Going on well; pulse 60; wound on the forehead granulating vigorously. Three ounces of port-wine allowed daily.

November 6. Two-thirds of the whole extent of the new nose firmly adherent to the parts adjacent, so as to bear pulling with impunity, but the right ala still unattached; the opposing edges are, however, suppurating kindly, and beginning to granulate; the granulations on the forehead quite prominent. The wound to be dressed with sulphate of zinc lotion. Wine continued, and full diet allowed.

November 8. Removed the stitch from the right side of the nose which was inserted on the 1st current, and found that union had taken place.

November 16. The nose was firmly adherent to the face; and the wound on the forehead was entirely skinned over.

November 19. Proceeded to establish a columna nasi. Took a slip a quarter of an inch broad from the centre line of the upper lip, and through all its thickness, rawed the lower end, and also the inside of the tip of the new nose, and having turned up the slip into the line of the column, there fixed it by a lady's sewing needle passed through the point of the nose. The upper lip was then treated as is usual in hare-lip; the edges, neatly approximated, were kept *in situ* by two fine needles and the twisted suture. Union took place speedily in both the nose and the lip. The appearance of the mouth being much improved by the upper lip—previously too long—having been shortened, and the column at first looking rather bulky, contracted to a very suitable size as the cicatrized surfaces firmed. A small extent of the twisted slip of the flap between the eye-brows remained detached from the subjacent surface, but a few days' dressing with blistering ointment, brought both surfaces into a granulating state, after which entire union speedily took place. He soon after left the hospital sound and well. His appearance previous to the operation, and at the period of his dismission, is given in an accompaying sketch. I have seen him within these four weeks. The nose is still as prominent as the sketch represents it; it is full and plump, and appears more likely to grow larger than to become smaller. The only annoyance he feels, is from a disposition in the cicatrized edge of each nostril to contract, so as to threaten the closure of both apertures. The twisted slip which I wish in future to see spared, lies flat, and quite incorporated with the skin between the eye-brows.

In conclusion, I would suggest the propriety of performing such operations in summer, when less risk would be incurred from variations of temperature; the frost on the night of the 1st of November proved all but fatal to the nose in the above case.

257 UNION STREET, ABERDEEN,
3d January 1844.

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ARTICLE VII.—*Notes on the Treatment of Burns; and on Hæmorrhage after the Extraction of Teeth.* *By* HUGH MACBEAN, Esq., *Surgeon, Elgin.*

Happening the other day to take up an old edition of *Culpepper's London Dispensatory*, by Dr Cole, published in 1661, I was not a little surprised on reading the following paragraph at page 33, "*Gum Arabic being dissolved in the white of an eg, wel beaten, it helps burnings, and keeps the place from blistering.*" Solomon says, "Is there any thing whereof it may be said, *See this is new:* It hath been already of old time. There is no remembrance of former things."—*Eccles.* i. 10, 11. I would never have thought of giving this piece of information, were it not that in No. XI. p. 1020 of THE MONTHLY JOURNAL, there is a quotation from the *Edinburgh Medical and Surgical Journal*, establishing the utility of a solution of gum arabic in burns, as an *original* application. It may be remarked, without detracting from the merit of originality, in so far as the author of that article is concerned, that it is to be regretted that the authors of modern dispensatories should neglect to note the practice of the ancients, which must have been founded on observation and experience; more especially as they have retained other parts of the old system which no one would now think of prescribing. The revolution which has taken place in all departments of medical science within the last half century, is perhaps not less extraordinary than the result has shown it to be beneficial to mankind. Yet our notions of novelty have caused us, in the general neglect of antiquated medicines and their varied applications, to discard the practice of the fathers in medicine, without due consideration; hence many valuable applications are now entirely omitted in the list of medicines and their uses: and it is not improbable that gum arabic, in some menstruum or another, was in use for burns long before the days of Hippocrates.

In treating burns, the following liniment, although not perhaps so cleanly as a solution of gum arabic, is at least equally efficacious. Take equal parts of lime water and linseed oil, adding to each fluid ounce from eight to twelve or more minims of creasote. This very speedily eases the pain, protects the parts from the influence of the atmosphere, and would seem to have a specific effect in eradicating the heat, and if applied sufficiently early, certainly prevents blisters; it moreover answers in the *ulcerated stage* of burns, which a solution of gum arabic is scarcely expected to do. Should the subject be a child, the little patient soon falls into a deep sleep, and on awakening complains of no pain. Caustic creasote is equally efficacious in burns by metal, sealing-wax, or heated metallic surfaces.

2. *Hæmorrhage after the Extraction of Teeth.*—There are frequent notices to be met with in our medical and other periodicals, of dangerous and even fatal hæmorrhage succeeding the extraction of teeth: and we find various remedies recommended. The following method has not been found to fail in a single instance during a course of seven or eight years' practice. The cavity whence the tooth has been extracted is to be filled with lint or caddis, and pressed home by means of a probe-pointed bent instrument, such as dentists employ for stopping teeth; a phial cork is then fitted to the size of the cavity, and cut short enough so as not to keep the jaws too far, or disagreeably asunder, and placed over the caddis. The patient is directed to bring his teeth together, keeping the cork perpendicularly between them, and pressing firmly on it, to aid

the patient in keeping the jaws together, a napkin or any other suitable bandage should be placed below the chin, carried up over the crown of the head, and tied tightly; and this again may be further secured by another napkin applied on the head in the ordinary way. This pressure is sufficient to prevent any further hæmorrhage, and the patient may be considered safe, according to the size of the artery exposed, in from two to three or four hours. Great care should be taken that the cork is not shifted, and should the patient require to open his mouth for any purpose, the cork must be held for the time in its place by the hand of an assistant, or by means of a strong straight tooth forceps. One patient got a tooth extracted in the forenoon, and being busily engaged at the moment no notice was taken of the bleeding, but he was particularly desired to return should it annoy him. About two P.M. he came back *quite exhausted*, and the artery exposed was so large that he required to be strictly watched during the night. The cork and plug were removed next morning and no hæmorrhage ensued, but the plug was replaced as at the commencement.

ARTICLE VIII.—*Clinical Report upon the circumstances in which a Dark Abdominal Line has been found extending between the pubes and umbilicus or ensiform cartilage, showing that it often depends on other causes than recent Delivery. By* JOHN ROSE CORMACK, M.D. Edin., F.R.S.E., *Physician to the Royal Infirmary of Edinburgh, and Lecturer on Forensic Medicine.*

It has much surprised me, that in this observing and scribbling age, no one has as yet publicly corroborated, disputed, or even commented on the value of the dark abdominal line, as a medico-legal test of recent delivery, though more than a year has now elapsed since Mr Turner first brought it prominently before the profession, through the medium of THE MONTHLY JOURNAL. In none of the recent publications on Forensic Medicine or Midwifery has it been even adverted to, so far as I am aware, except in the new edition of Dr Campbell's work on the latter subject, in which it is merely alluded to in vague terms.[1] This is the more to be wondered at, as Mr Turner was unquestionably the first author who directed special attention to this interesting appearance, though it is likely to have been often previously observed by others. In Dr Montgomery's work on the *Signs and Symptoms of Pregnancy*, there is possibly obscure allusion made to it, when the author says,—" In some cases, there is also to be seen extending between these two points, a brown line of about a quarter of an inch in breadth, especially in women of dark hair and strongly coloured skin." It does not, however, clearly appear from the context, that Mr Turner was anticipated by this distinguished author.[1]

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[1] CAMPBELL.—Midwifery, Edinburgh, 1843. The words are :—" A broad, purplish, or brownish line, extending from the umbilicus to the symphisis pubis, has been strongly insisted upon by some writers, as another distinguishing mark." P. 157.

My experience accords with that of Mr Turner, inasmuch as I have, like him, almost in every case in which I looked for it, observed in the recently delivered, a dark abdominal line or stripe extending between the pubes and umbilicus, and commonly going up even to the ensiform cartilage; but unfortunately for the value of this appearance as a medico-legal test, I have discovered that it often manifests itself in males, and in females independent of delivery. The main object of this communication is briefly to make known the various circumstances in which the dark abdominal line has been observed. Before doing so, however, it is necessary to quote Mr Turner's conclusions, so that the reader may more fully see the bearing of the subjoined clinical report on the subject.

Mr Turner's Inferences regarding the Dark Abdominal Line.

"1. The *dark line* will at least be useful as an addition to the aggregate mass of the signs of delivery.

"2. Being so constantly observable after delivery, its absence in a suspected case may, of itself, and *a fortiori*, where other indications of a similar tendency are present, be regarded as negative evidence of no slight value.

"3. On this account, too, it will go far to supply the place of another sign, to which very great importance is attached,—laceration of the fourchette,—in the numerous cases where the latter is wanting. When both co-exist with the usual signs, the evidentiary force of the whole will be irresistible.

"4. Where there is no *corpus delicti*, the presence of the dark line will be presumptive evidence of itself that the woman has given birth to a viable child: along with other similar indications, the presumption will be very strong.

"5. Where there is a *corpus delicti*, the presence or absence of *the line* will serve as a test of the accuracy of the opinion formed from an examination of the child's body, respecting the maturity or immaturity of the same.

"6. And it will thus occasionally give some assistance, where difficulty exists, in identifying the body of the child found, as the offspring of the accused.

"7. The *dark line* will enable us to detect the occurrence of delivery at a greater distance of time after it, than the period fixed by authorities as the latest at which an opinion ought to be given.

"8. The changes occurring in *the line* at different periods, might even, had our knowledge of them all the precision of which it is susceptible, serve to indicate in some cases, with an approximation to accuracy, the time at which delivery took place."[2]

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[1] The following is the passage of Dr Montgomery's work referred to, with the clause to which special attention is called, in *italics*:—"The abdomen is full, its integuments greatly relaxed, or even thrown into folds, especially in those who have borne several children; the skin is remarkably moveable on the subjacent muscles, and occasionally the muscles are found separated along the median line, and we recognise those light coloured broken streaks or cracks already mentioned, which are generally most numerous from the groins and pubes towards the umbilicus, which is often found projecting, and of a conical form; *in some cases, there is also to be seen, extending between these two points, a brown line, of about a quarter of an inch in breadth, especially in women of dark hair and strongly-coloured skin.*" Pp. 303, 304.

[2] Turner.—Monthly Journal, August 1842. P. 679.

The circumstances in which I have found *the dark abdominal line* are as follows;

1. After delivery at the full time.
2. After abortions, and premature delivery.
3. During pregnancy.
4. During menstruation, and in other states unconnected with pregnancy or delivery, and,
5. In male patients suffering from certain affections of the pelvic and abdominal viscera.

1. *After Delivery at the full time.*

For some time after the appearance of Mr Turner's papers, I unfortunately limited my own observations, and the inquiries which I made among my friends, to the cases of women recently delivered. As these researches only tended to corroborate the statements made by Mr Turner, the particulars were not fully noted at the time, and frequently no record of them was kept. Another reason for the details regarding this class of cases being very scanty, is that a number of the women were seen by me only once or twice, and that casually in several instances. This is the less to be regretted, as all the cases spoken of under the four other heads of the paper, were made the objects of almost daily clinical observation.

Since the publication of Mr Turner's first memoir, up to this date, I have examined, with special reference to the dark line, 31 women, delivered at or about the full time, within periods varying from a day to three weeks after accouchement.

In 3 of them only did I fail to detect it; and with regard to these exceptional cases, some explanation can be given. One of the females was a poor woman, whom I only saw once, and that hurriedly in a dark habitation; she had been delivered about two days previously. The other two were also only seen once, and in both instances, within forty-eight hours after the event.

Of the total 31 recently delivered women in whom it was looked for, 11 were patients of Professor Simpson in the Lying-in Hospital, just before that Institution was closed. The circumstances in which they were first seen by me, are worth mentioning. In May last, when lecturing upon the Signs of Delivery, I took occasion to speak of Mr Turner's test; and, after lecture, two gentlemen present expressed a desire to obtain permission to search for the line in the patients then in Dr Simpson's Hospital. Having obtained leave, we went together, and inspected the women then in the house, who had been delivered. In all of them—11 in number—we found the dark abdominal line. It varied considerably in intensity, being of the deepest hue in two women of dark complexions, hair, and eyes. Both patients had been about nine days delivered. Contrasting the aspect of the line in some fair women then in the wards, with it in these two persons just mentioned, it was noticed that in the former, it was much less striking; and it may be pretty confidently stated, that the intensity of the line, like that of the areola, varies according to, and corresponds with the complexion of the woman. I may here mention, that in two persons of dark complexion, I have noticed that the line which on a first examination was only of a dusky yellow colour, afterwards became black and inky, the whole surface of the abdomen at the same time assuming a dingy hue. The first examination in one of these cases took place on the third, and the second, on the tenth day after delivery. The other case was seen on the second day, when no line could be detected; again on the fifth, when it was like a yellow stripe; and upon the eleventh and fifteenth days, it was reported as being dark and well defined. One of the 31 cases was seen only when in labour, when the line could be detected, but that with difficulty. My friend who had charge of the patient, informed me that he saw it some days afterwards very distinctly, and repeatedly on subsequent occasions.

2. *After Abortions, and Premature Delivery.*

This is the class of cases regarding which the best opportunities of making observations have been afforded, in consequence of a number of pregnant women having come under my charge in the hospital, with the fever at present prevailing, a peculiarity of which is, that with hardly an exception, such persons abort. The abortions generally take place at the crisis of the first attack, which is, in other words, about the 5th or 7th day of the disease, or if the patient get through this period of hazard, the initial paroxysm of the second attack determines miscarriage. A few cases go on till a third attack; and I have been told of one person who went through three attacks of the epidemic without even any uterine symptoms to excite alarm. As a general rule, however, it may safely be said, that pregnant women seized with this fever, will miscarry at some period of it.

Six of my own hospital patients who aborted in the fever were made the object of regular observation and report with regard to the line. Several others were also seen both in and out of the hostal, but were not carefully noticed; so that the statements made with reference to this division of the subject are confined to the former class of observations. For the sake of brevity and clearness, the principal facts regarding them are summed up in a tabular form. In one only of the six cases was the line absent. In all of them, with one exception, it was less marked than in those of similar complexion delivered at the full time.

TABLE I.—Fever Patients who Aborted in Hospital.

Name and Age.	Complexion, &c.	Summary of reports on the Line.	Additional Particulars.
1. **Lucy Gartlan, aged 22, unmarried.**	**Florid complexion, red hair, and light eyes.**	She was under observation 10 days before, and 16 days after abortion; *the line was carefully and often looked for, but never seen.*	This was a first pregnancy in its 6th month. Labour set in with the second attack of the fever, which was on the 14th day from the first seizure. Abortion happened on the following day. She was admitted into hospital on September 9, 1843, and dismissed October 4. The case is fully detailed in the Author's treatise on the epidemic of 1843, p. 19.
2. **Anne Stewart, aged 21, married.**	**Delicate rosy tint on the cheeks, dark blue eyes, and darkish brown hair.**	Aborted (3 days before admission) on the 5th, which was the critical day of the fever. A dark abdominal line was seen on admission, extending from the pubes to a little above the umbilicus. It never was very deep in colour, but became gradually more distinct up to the 8th day after abortion, when it began gradually to fade. When last reported on the 15th January, it was described as "a very faint dirty yellow stripe."	This was a first pregnancy, in its 4th month. She was seized on December 14th, admitted on the 22d, and had her second attack on the 30th; being 17th day from the commencement of the disease. She was dismissed 23d January 1844.
3. **Isabella Toffts, aged 16, unmarried.**	**Dark brown hair, fine skin.**	Labour began on December 30, at 4 P.M.; abortion happened at a quarter past 9 P.M. of 31st. To stop profuse hæmorrhage, the cold affusion was applied to the lower part of abdomen; this was checked, but also the lochia. On the 1st and 2d of January, there was violent delirium, and almost no discharge. It returned somewhat on the 3d January, and with it the line appeared for the first time. It became very distinct on the 4th and 5th Jan.; on which days there were symptoms of peritonitis. After these were	This was a first pregnancy between the 6th and 7th month. She was seized on the 27th December, and admitted on the morning of the 30th; on the evening of which day labour began. She is still in the hospital.

Name and Age.	Complexion, &c.	Summary of reports on the Line.	Additional Particulars.
Case of Isabella Toffts *continued.*		subdued, it became hardly visible. On the 10th it was reported, that "the lochia have disappeared, and the line become very indistinct." She entered upon her second attack on the 12th, (17th from first seizure). On 15th January, the following report is entered: "The abdominal stripe has become much more distinct since last described on the 13th. It is now as dark and well defined as I ever saw it in a woman delivered at the full time. The lochial discharge returned yesterday in great abundance, and is at present red, and profuse. Her pulse is natural, and she is in all respects better than since the beginning of the second attack, which has been severe. It was ushered in by a sudden paroxysm of violent delirium, in which she tore her clothes."	
4. E. M'Peak, aged 40, married.	Dark hair and eyes.	No dark line was seen. She was under observation for 27 days after the abortion, which took place between the 3d and 4th month of pregnancy.	She has families by two husbands. She has had several abortions. Abortion took place on the 15th day of the disease, being the second of the relapse. She was seized on the 31st July 1843, admitted on the 6th August, and dismissed on the 20th September, having been 46 days under observation in the hospital.
5. R. Fraser, aged 30, married.	Brown hair, and blue eyes.	The dark line was seen very distinctly on the 6th day after abortion: it was somewhat faded on the 9th; and on the 11th, it became much more deep in colour than it had ever been. No subsequent reports were made till the day of her dismissal, the 18th after abortion, when it "had almost disappeared."	This was a 4th pregnancy. The abortion took place between the 3d and 4th months of pregnancy.

Name and Age.	Occupation, &c.	Summary of reports on the Line.	Additional Particulars.
6. Mrs Cox, aged 27, married.	Dark hair, and light eyes.	The dark line was well seen in this case, both before and after abortion. It varied in intensity at times.	This was a third pregnancy, between the 4th and 5th month. She was seized September 23d, 1843, admitted on the 29th, and dismissed on the 23d November. The abortion and jaundice occurred in the relapse. The date of the abortion was the 25th of the disease. The case is fully described in the author's treatise on the fever of 1843, p. 76.

3. *During Pregnancy.*

About 8 or 10 of those in whom the line was seen after delivery, at or about the full time, were also examined with reference to it during pregnancy. In several instances it was seen, but it was at least as frequently absent, if I can trust my memory on this point. Regarding two cases only of persons examined during pregnancy have I kept exact and satisfactory notes. The one was a patient who had a threatening of abortion about the seventh month, or at all events, a coloured discharge from the vagina, with some bearing-down pains. At this time, the line was seen like a dirty yellow stripe; but on the third or last day during which the discharge was seen, a very distinct blackish blue line was observed extending from the pubes some inches above the umbilicus; on the following day, it became rather deeper in hue, after which it rapidly faded, and in a week had entirely disappeared. In four weeks from the time when the discharge had come on, it returned, though in a very small quantity: the line reappeared for two days. Two days before delivery, no line could be detected, nor did the least trace of it appear, till the third day, when it was very faintly seen; on the eighth, it was well marked, and continued so for about a week, when it rapidly went away. The exact time at which it became invisible is not known; but it is supposed to have been about the twentieth or twenty-first day after delivery. The other person whose case was made the subject of special notice, was a young prostitute affected with gonorrhœa and condylomatous excrescences. She was seven months pregnant of a first child; and suffered also from slight thoracic disease. When seen in these circumstances for the first time, the abdominal stripe was very deep in colour, and extended from the pubes to the ensiform cartilage, with a slight break at the umbilicus. As the local affections of the genitals began to improve, the line visibly though slowly lost its intensity: it never, however, entirely disappeared, and was distinct a month after delivery, which event took place at about the full time. Having lost all trace of the woman, it is impossible to discover how long it continued after that date.

4. *In females during menstruation, and in other states unconnected with pregnancy or delivery.*

At first I was inclined to believe, with some of my friends, that in women in whom the line presented itself, there was always something in the state of the uterine system to account for it; but from the phenomenon being found to manifest itself also in the male, though perhaps more rarely than in the other sex, this idea was soon seen to be untenable.

Derangement, therefore, of the menstrual secretion is only one of the various causes which produce the line. I think that during menstruation the line frequently appears, and that along with it, the areola assumes a darker hue. I observed both phenomena in two consecutive catamenial periods, in the same patient. Professor Simpson tells me that he has seen the line during menstruation; and Mr Rankine of Carluke has favoured me with the particulars of a case in which it appeared in a succession of monthly periods. The following is an extract from his letter to me on the subject:—

" Notwithstanding the almost impossibility, in private practice, of making observations of this nature, opportunities of casually doing so have occurred to me; and as these were confirmatory of Mr Turner's cases, I was disposed to adopt the practical deductions announced in his interesting memoirs. Occasion to doubt, soon, however, arose, and I was at this juncture strongly reminded of the sensible prelude to that gentleman's first paper, in which we are cautioned to 'exercise the strongest possible circumspection, both in receiving facts and drawing inferences.'

" During attendance on a young female, suffering from an injury which required frequent manipulation by the surgeon, with the abdomen exposed, I was arrested by observing (6th May last) the *veritable* 'dark line,' where a few days previously there was nothing of the kind. The patient was beyond suspicion; nor was there the slightest previous indication of pregnancy. But there could be no mistake: there the brand was fixed, from pubes to umbilicus, in alarming distinctness! The breasts were immediately examined, and found rather full with the areola, distinctly though not prominently marked. This female, who is an intelligent person, instantly informed me that what I observed in the breasts was not uncommon; that immediately previous to menstruation 'that change always takes place.' With regard to the *line* in the abdomen she could say nothing, not having observed it before, but very frankly offered to pay attention to it. The result of four subsequent periods, occurring with marked regularity, is, that at each menstruation the 'dark line' appears: it is first seen three or four days previous to the discharge, and gradually disappears during the continuance of it.

" It may be proper to state that I witnessed the 'dark line' and state of the breasts only on the 6th of May, when the peculiarity was first observed, and this morning being the fourth subsequent menstrual period. In the intervening periods the patient herself made the observations, and after each, brought me a slip of paper cut the length and breadth of the 'dark line.'"

The following table exhibits a summary of the reports on seven cases, which I had an opportunity of making the subjects of minute and frequent inspection:—

TABLE II.—Female (Fever) Hospital Patients, in whom the Dark Line was observed, unconnected with Pregnancy or Delivery.

Name.	Complexion.	Reports upon the Line.	Additional particulars.
1. J. Graham, aged 16.	Dark hair and eyes.	The line was first observed upon the 11th day of the fever, very distinctly; and afterwards varied much in shade, being much lighter in the interval than during the febrile attacks.	This girl had amenorrhœa of four months' standing, and exhibited marked hysterical symptoms in both attacks, but especially during the second.
2. A. Shaw, aged 19.	Dark hair, and light eyes.	The line was first seen on the 21st day; it was less distinct on the 23d; faint on the 24th; gone on the 26th; very distinct on the 28th; and gone on the 35th day.	Dysentery and severe abdominal pain had existed for two days previous to the first notice of the line, but it had not been looked for till the 21st day. On the 28th day, when it was very distinct, neither diarrhœa nor pain were present.
3. E. Menzies, aged 34.	Brown hair, and light eyes.	The line was very distinct when seen on the 2d day of the fever, and on various subsequent occasions. She had much abdominal pain, and was menstruating profusely, when the line was first observed.	This woman had had eight children, and had aborted three months previously.
4. M. M'Cabe, aged 25.	Dark hair and eyes.	On the 14th day of the fever, a very distinct line was seen. She was then menstruating.	She had had no children.
5. Mrs Tabor, aged 28.	Ditto.	A distinct line was seen on the 6th day of the fever. She was menstruating profusely when the line was first seen.	This person never had children.
6. Mrs Morris, aged 45.	Fair hair, and light eyes.	On the 6th day, the line was very distinct. The line was very distinct after death. Died from the diarrhœa of phthisis.	This woman had had seven children, and three abortions: the last, nine years before the attack.
7. H. Rose, aged 26.	Black hair, and blue eyes.	A very distinct line was seen on the 6th day of the fever. Abdominal pain.	She had had a child five months previously, and was then suckling it. She had not menstruated since delivery.

5. *In male patients.*

I have arranged all the observations which I have made on this subject in the following table:—

TABLE III.—Male Hospital Patients in whom the Dark Line was observed.

Name.	Complexion.	Reports upon the Line.	Additional particulars.
1. A. Stewart, aged 18.	Dark brown hair, and blue eyes.	A distinct line was seen for some days, when the local symptoms were acute.	Prevailing fever; gonorrhœa. Pain in the region of bladder.
2. J. Connor, aged 47.	Grey hair, and blue eyes.	On the 6th day, a faint line was seen; more faint on 7th; gone on 8th; seen again on 14th day; gone on 16th.	Prevailing fever. At first he had constipation, and abdominal pain; afterwards, diarrhœa. At no time had he distension of the abdomen.
3. Wm. Dodds, aged 26.	Dark hair and eyes.	A very distinct line was seen on the 39th day; and it was equally marked on the 41st day.	Prevailing fever. This man had suffered from diarrhœa for eight days previous to the first notice of the line, when the former had almost ceased.
4. Wm. Robinson, aged 35.	Black hair, and dark eyes.	On the 12th day a faint line was seen; also on the 13th and 14th days.	Prevailing fever. There was no abdominal pain or distension, when the line was seen. It appeared simultaneously with diarrhœa.
5. B. Sparrow, aged 27.	Dark.	A very distinct line, appearing and disappearing as the symptoms varied.	The cause of his admission into hospital was the debility remaining after a severe attack of dysentery. He had also chronic pleurisy.
6. J. Dawson, aged 15.	Dark hair and eyes.	On 16th January, complained of severe pain in the region of the bladder, much aggravated by the slightest pressure, and scalding pain in making water. This led me to examine the abdomen, with reference to the line, when it was found as distinct as I ever found it in the female.	Continued fever. The line was first looked for and seen on the 9th day of the disease. The case, which threatens to be severe, is at present under treatment.
7. J. Stevenson, aged 36.	Dark hair and eyes.	On the 16th January there was constipation, and uneasiness of the abdomen, when a distinct, though not very deep-coloured line was found.	Phthisis in an advanced stage, with cavities. Still in the infirmary.

Name.	Complexion.	Reports upon the Line.	Additional Particulars.
8. Robert Menzies, aged 14.	Dark brown hair, and dark complexion.	Upon 19th January, being the 5th of the "relapse," he complained of pain in the region of the bladder, and uneasy micturition. Upon examination, the penis was found to be in a state of priapism; and a very distinct dark line was observed extending between the pubis and umbilicus. Some days previously, when the abdomen was observed, no dark line existed.	Prevailing fever.
9. Jos. Flannaghan, aged 17.	Hair brown, light greenish eyes, rather fair, florid complexion.	On 16th January, severe abdominal pain being complained of, the line was looked for, but not found: on the following day, when there was some gaseous distension of abdomen, though the pain was less, a distinct line was seen.	Typhus fever, with typhoid exanthema.

Having stated the facts so fully, little remains to be added in the form of commentary. The following conclusions which I have come to, will I think be found correct by any one who takes the trouble of investigating the subject for himself.

CONCLUSIONS.

1. Some days after delivery at the full time, a dark abdominal line, such as Mr Turner has described, is almost invariably present. The deepness of its hue is modified by various accidental circumstances, but particularly, (like the areola,) by the complexion of the female.

2. During menstruation and pregnancy, after abortions and miscarriages, the same line is also most commonly seen; but generally, it is less distinct, than after a nine months' gestation.

3. The dark abdominal line may be seen in females, quite unconnected with pregnancy, delivery, or any affection of the uterine system.

4. The dark abdominal line occasionally appears in males, when the mucous membrane of the intestines, bladder, and urethra are affected; [and possibly, it may be added, in other circumstances.]

5. From the diversity of causes which give rise to this appearance, its presence can be of no use whatever as a medico-legal test of delivery; although its absence in suspected cases, might, in connection with other circumstances, strengthen the belief that the woman had not been recently delivered.

PART SECOND.

REVIEWS.

Introduction to the Study and Practice of Midwifery. By WILLIAM CAMPBELL, *late Surgeon, R.N.; and by* ALEXANDER D. CAMPBELL, B.A., *Trinity College, Dublin.* Second edition, 8vo. Pp. 804. Edinburgh, 1843.

Dr William Campbell is already extensively known as a writer on Obstetric Medicine; and the second edition of his systematic work on Midwifery, (to which his son has ably contributed,) is not calculated to diminish his reputation.

In the *first part*, the anatomy and physiology of the organs concerned in midwifery are considered; in the *second part*, parturition; in the *third*, the puerperal state is treated of; the *fourth* and last part is devoted to the diseases of infancy and childhood. The requisite medico-legal details are pretty fully introduced in their respective places; and the information is generally brought down to the present state of Forensic Medicine.

The chapter upon *conception*, though brief, contains much interesting matter. With regard to the season of the year in which conception is most apt to happen, we find the following remarks:—

> "The period of the year at which females are most apt to conceive, would seem, in temperate countries, to be somewhat regulated by the time when the warm seasons are ushered in. A certain elevation or increase of the temperature of the atmosphere tends to excite the passions, which is favourable, though not indispensable to the due performance of all the functions of the genital system. M. Raymond of Marseilles informs us, that the females in that quarter are most apt to conceive in autumn, and chiefly in October; next in summer, and lastly in winter and spring; the month of March being the least favourable. M. Moraud, another French practitioner, states that July, May, and June, are more favourable; while November, March, April, and October are the least so, in the order in which they are mentioned." P. 75.

After some statistical details, referring to the causes which determine the sex of our race, the following summary is given:—

> "It follows from the foregoing statistical accounts, *first*, that, in cold countries more especially, more male than female children are procreated; *secondly*, that in first gestations, the female progeny predominate; *thirdly*, that in illegitimate deliveries, the male children are not so numerous as in legitimate preg-

> nancies; *fourthly*, that very youthful or very aged males will procreate most female children; *fifthly*, that vigorous fathers will beget most of their own sex, and *vice versa*; *sixthly*, that when the ages of the parents are equal, the sexes engendered by them will also be nearly in equal proportion; *seventhly*, that when the age of the father does not very far exceed that of the mother, the male progeny predominates; *eighthly*, that females who indulge in sexual congress but rarely, produce more of their own than of the male sex; *ninthly*, that in large towns there are fewer male children engendered than in small towns or in the country; *tenthly*, that in commercial or manufacturing places there are fewer males produced than in agricultural districts; and, *lastly*, that people in a state of slavery produce more male children than those who enjoy freedom." Pp. 77, 78.

We agree with Dr Campbell upon the whole, in his remarks on the *duration of pregnancy*. From the precise statistics of M. Tessier, the Earl Spencer, and others, regarding gestation in the cow,—an animal whose term is similar to that of the human female,—it appears, that the former sometimes goes weeks beyond the regular period. In Tessier's observations, referred to by Dr Campbell, of 160 cows, "14 calved from 8 months to 8 months and 26 days; 3 at 270 days; 50 from 270 to 280 days; 68 from 280 to 290 days; 20 at 300 days; and 5 at 307 days; so that betwixt the two extremes, there was a difference of more than two months." It would have been better had the authors, instead of contenting themselves with Foderè's account of Tessier's observations, gone to some other source. Had they referred to Burke's *British Husbandry*, vol. ii. p. 438, they would have found recorded a more extensive series of Tessier's observations. The following results are there given:—

21	calved between the	240th and 270th day,	the mean term being	259¼
544	"	270th and 299th	"	282
10	"	299th and 321st	"	303

The Earl Spencer's observations, though not adverted to by the authors, are equally important as those cited by them. Having already given them at full length in this Journal, we only repeat here the conclusions. The shortest period of gestation, when a live calf was produced, was 220 days, and the longest 313 days; no calf, produced at an earlier period than 242 days, was reared. The right honourable author says, that any calf produced before the 260th day, must be considered decidedly premature; and any period of gestation, exceeding 300 days, must be considered as irregular. From a table given, it appears that 314 cows calved before the 284th day, and 310 calved before the 285th, which makes the probable period of natural gestation 284 or 285 days. From such analogical facts, it would be most sceptical to deny the authenticity of alleged cases of protracted gestation in the human female, when the moral evidence appears to be unimpeachable.

If such observations as those of M. Tessier and the Earl Spencer go to prove, from analogy, the irregularity of the period of gestation in the human female, as to prolongation, they also point out to us that the period is occasionally greatly shortened, and nevertheless a progeny produced which can be reared. We are glad to find that Dr Campbell senior has somewhat modified his opinion as to the earliest period at which the human fœtus is viable, and does not cast an unnecessary slur upon the sentence of the ecclesiastical court in the case of the Rev. Mr Jardine of Kinghorn, as he has done in his work on Extra-uterine Conception. As the valuable evidence in that case has never been fully published in any medical journal, we have for some time past had it in contemplation to reprint the most important parts of it, subjoining what additional information has been accumulated, since that interesting and important trial took place. On this account, it is unnecessary to give any more expression of our views of the subject, upon the present occasion.

We observe that Dr Campbell, in speaking of the signs of delivery, makes the following statement:—"A broad purplish or brownish line, extending from the umbilicus to the symphisis pubis, has been strongly insisted on by some writers, as another distinguishing mark" of the recently-delivered female. This is, we presume, an allusion to the papers which appeared in this Journal, vol. ii. and iii. (1842—1843), by our esteemed contributor, Mr Turner of Keith, and perhaps also to the obscure allusion (if allusion at all it can be called,) which was previously made to the same subject by Dr Montgomery of Dublin, in his work upon the *Signs and Symptoms of Pregnancy*. Some remarks upon this subject will be found at page 117 of this Number.

The work before us is not one suited for an extended review, as the various subjects which it embraces are necessarily treated with brevity. Our object in noticing it, is to state, that it may be safely trusted to by the student, as a sound and comprehensive text-book, being not the product of mere compilers, but of men who are experienced teachers and practitioners.

Elements of Natural Philosophy; being an Experimental Introduction to the Study of the Physical Sciences. By Golding Bird, A.M., M.D., F.L.S., &c. &c. [*The Second Edition revised and enlarged.*] 12mo, pp. 479. London, 1844.

Dr Golding Bird's work is unrivalled as a text-book for the student. It is simple, and full in the details, without being tedious. As the Medical Boards now require a knowledge of Natural Philosophy, we earnestly recommend this volume to medical students, as the text-book best suited to their wants.

PART THIRD.

PERISCOPE.

PRACTICE OF PHYSIC AND PATHOLOGY.

ON PNEUMONIA. BY DR ADDISON.

DR ADDISON contributes a long and valuable article on Pneumonia and its Consequences, to *Guy's Hospital Reports* for October 1843. He has long felt a deep interest on the subject, and the result of his inquiries and observations has been the conviction, that the disease requires further elucidation. He does not consider the *simple pneumonia of Lænnec*, the simplest form of the disease, but a complication—a broncho-pneumonia; but he thinks there is a truly simple pneumonia not uncommon in young persons and in good constitutions, unattended by either cough, expectoration, or of such a degree of pain as to attract particular attention. He was the first individual who opposed the long cherished notion, that *pneumonia had its seat* in the parenchyma of the lungs, and that the ordinary products of inflammation were poured into that parenchyma. *Pneumonia* has its original and essential seat in the air-cells of the lungs, and *the deposits* are poured into these cells. The opinion that the pneumonic deposits are poured into an interstitial tissue, is not reconcilable with either the healthy or the morbid anatomy of the lungs; no structure to which the terms interstitial and parenchyma can be fairly applied, being discoverable in these organs.

No one who traces the effects, either immediate or remote, of pneumonic inflammation, can fail to observe the close resemblance to these of inflammation affecting a serous membrane, or the common uniting cellular tissue of the body; a circumstance, which he thinks, leads to the conclusion that the air-cells of the lungs are a mere modification of one or other of these tissues.

Dr Stokes imagines, that in the earliest stage of pneumonic inflammation, there is a preternatural dryness of the air-cells, from an arrest of their natural secretions; and that this stage is characterized by an excited state of the respiratory act, and by a murmur louder than natural. Dr Addison is inclined to agree with the above position, which he thinks does not bear on the serous or mucous character of the cells; but the effect which immediately succeeds the dry state, —that which is usually first recognised by its physical signs—the stage of engorgement of authors, strongly supports the serous character of the air-cells. This consists of an effusion of serum into the air-cells themselves. Some years ago, Dr Addison first collected this fluid, and found it readily coagulable by heat; he pressed the fluid from the cells through the truncated bronchial tubes of the incised lung. In œdema of the lungs, he has pressed the serum from the cells by separating an individual lobule, and puncturing it.

In the first stage of pneumonia, we find the cells highly vascular, and denser *to the feel* than natural, although still crepitating, and containing air; sooner or later, however, the parietes swell—encroach on the cavities of the cells, and cause the absorption of the fluid previously effused; and in this way, the complete solidification is effected which constitutes the *red hepatization* of authors.

He rejects the notion of the solidification being in any degree dependent upon the actual effusion of solid albuminous matter into the cells. As acute inflammation proceeds, the parietes of the cells become more and more opaque—how far from a merely molecular change, and how far from superadded albuminous deposit, it is difficult to determine; the minute blood-vessels are no longer visible; the parietes of the cells are not only thickened, but become exceedingly softened; and, with this extreme loss of cohesion, and apparently diminished turgescence, we have undeniable proof that the cells now admit of an albuminous matter being poured into their cavities. This constitutes the *grey hepatization* of authors.

It has long been remarked, that acute pneumonia rarely terminates in the formation of abscess, except in bad constitutions, and even then, they are small, irregular, and scattered. In some cases, the want of vital power is so great, that acute inflammation rapidly reduces the tissues to a puriform albuminous mass before the softening is so complete as we find in abscess. Gangrene of the lungs, properly so called, is very rare, except in persons who have brought their systems to an extremely cachectic state, by intemperance or otherwise. The form of the consolidation of the lungs which has been described by Laennec under the term *carnification*, and which is generally considered the result of pneumonia, modified by pleuritic effusion, Dr Addison believes to be simply the result of the pleuritic effusion having compressed the lung—pressed out the air, and brought the sides of the cells into apposition; this he has seen proved by inflating a piece of lung presenting all the characters of *carnification.*

The permanent effects of pneumonia in a lung as recognised by Dr Addison, 1st, *The uniform albuminous induration.* 2d, *The granular induration;* and, 3d, *The grey induration.*

The first of these forms is thus described :—" When acute pneumonia occurs in good constitutions, the softened tissues appear occasionally to become so blended with, or assimilated to, the permanent albuminous deposit, that the whole is converted ultimately into a uniform, homogeneous, semi-transparent, or opaque and yellowish material, in which we discover not the slightest trace of either the aërial cellular structure, or of the common interlobular cellular membrane. Passing through this organized mass, we sometimes find vessels of considerable size carrying red blood, which, on making pressure, may be forced out of their truncated extremities; but as regards any proper vascularity of the new tissue itself, I am not at present in a position to speak with confidence. The material just described may either be diffused through a considerable portion of lung involving several lobules, or even the greater part of an entire lobe, which is sometimes the case; or, as more rarely happens, it may be limited to one, or a few lobules only. This is the least frequent of the permanent pneumonic indurations of the lung." P. 376.

The second form is thus described :—" When the inflammation pours out a less organizable albumen, as often happens in strumous habits, the permanent change produced is very different. In such cases, the interlobular cellular tissue often, though not necessarily, remains perfectly distinct; and a solid, pale, or yellowish and friable albuminous matter occupies the lobules; and this, apparently, without having assimilated the parietes of the cells, as in the former case. The cellular arrangement is still perceptible, both on the exterior and in the interior of the lobule, giving to the former something of the configuration of a raspberry; whilst, on cutting the lobule, we find the friable albuminous matter presenting the granular aspect produced by the filling up of still separate cells. Whether this change takes place in a single lobule, in lobules at a distance from each other, or in a number of lobules as it were heaped together, so little affected is the interlobular cellular membrane in many instances, that, after keeping the lung a few days to soften it, these lobules may be fairly turned out and examined ; as was the case with the lobules from which the accompanying drawing was taken." P. 377.

The third form, or, " the *grey induration,* is made up of a mixture of dull or yellowish-white and black matter, in variable proportions; the tint being light or dark according to the greater or less quantity of one or other of these; the lighter variety occasionally passing insensibly into the uniform albuminous induration; the darker, on the other hand, being of an iron-grey colour, or approaching in some instances, nearly to black; the former again being, in general, of moderate density; the latter usually much firmer, and sometimes even as hard as cartilage. In this grey variety of pneumonic induration, the morbid change differs from the uniform albuminous induration, in the albuminization of the tissues being much less complete; and from the granular induration in the albuminous deposit being of a more plastic or organizable kind: in short, the pneumonic inflammation may be said, in this case, to have terminated in adhesion; the albuminous effusion having partially undergone organization and contraction, and thereby glueing together and hardening the aërial cellular tissue; the whole of the appearances being, consequently, the result of permanent albuminous deposit, obstructed cells, and black pulmonary matter." Pp. 377, 378.

A continuation of this valuable memoir is promised, the most interesting portions of which we will give to our readers as soon as it appears.—Abridged from *Guy's Hospital Reports* for October 1843.

PATHOLOGICAL AND HISTOLOGICAL RESEARCHES ON INFLAMMATION OF THE NERVOUS CENTRES. BY JOHN HUGHES BENNETT, M.D. Edin., F.R.S.E.

Dr Bennett gives two additional cases to the thirty-one previously detailed (see MONTHLY JOURNAL for 1843, p. 645), and a notice of twelve others, comprising all the recorded facts connected with this subject, from the writings of Gluge and Vogt. In the first case, both an inflammatory and a non-inflammatory softening of the brain existed, which were readily distinguished from each other by the microscope, although it had been impossible to do so with the naked eye.

Dr Bennett then enters upon a consideration of the nature of softenings of the nervous centres, and, after alluding to the different opinions brought forward on this subject, divides them into two kinds, an inflammatory, and a non-inflammatory.

The character of inflammatory softening is determined, by placing a minute portion of the inflamed nervous structure between two slips of glass, then pressing them so as to render the tissue visible by transmitted light, and examining it by a magnifying power of 300 linear diameters. The following appearances will then be observed. Besides the normal, tubular, and granular structure of the parts examined, there will be found, 1*st*, Exudation granules coating the vessels, or floating loose, either isolated, or in the form of masses; 2*d*, Exudation corpuscles, with distinct cell walls, sometimes nucleated. The more pultaceous and diffluent the softening is, the more numerous are the granules and corpuscles. The nervous tubes and normal structures also then become more and more broken down. The *nature* of inflammatory softening consists, according to the author, in the active growth, development, and breaking down of nucleated cells (exudation corpuscles) in the effused blood-plasma, and is not a mere maceration of the textures in serum.

The character of non-inflammatory softening is determined by following the same mode of demonstration as that described, when it is found, that the cylindrical and varicose tubes of the parts are rendered more soft and easily separable from each other. They have more or less lost their natural firmness and consistence; are readily torn across; the varicosities are easily enlarged by pressure, and when separated or broken off, assume a globular form. The tubes also are more or less broken down into fragments. No exudation granules, masses, or corpuscles, are to be detected. The *nature* of non-inflammatory softening varies according to circumstances. It would seem to arise from four causes:—1*st*, From mechanical violence, in exposing the nervous centres; 2*d*, From a mechanical breaking up of the nervous tissue, by hæmorrhagic extravasations, whether in mass, or when infiltrated in small isolated points, constituting capillary apoplexy; 3*d*, From the mere imbibition of effused serum, which loosens the connection between the nervous tubes, and diminishes the consistence of the nervous tissue ; *4th*, From the process of putrefaction.

An analysis of the cases previously detailed leads to the conclusion, that, whilst inflammatory softening produces such marked symptoms, these are absent in non-inflammatory softening. This is not only shown in those cases where one or the other was present, but in those where both existed together. In these latter, it has always happened that, whilst symptoms were present on the opposite side to inflammatory lesion, none were occasioned by the non-inflammatory.

Dr Bennett next brings forward a series of facts, in order to establish the two following propositions : 1st, *That pathologists have hitherto confounded softening dependent on inflammation, with softening occasioned by post-mortem changes or mechanical violence ;* 2d, *That notwithstanding the most anxious search, and the existence, during life, of the most decided symptoms of softening, inflammation, though really present, has escaped observation.*

The first proposition is proved by five cases, where there was an extensive softening which it was impossible for any one to distinguish positively, by unaided sight, from inflammatory softening. In neither did exudation corpuscles exist. It is farther supported by four other cases, where, conjoined with an inflammatory softening, producing particular symptoms, there was also non-inflammatory softening, occasioning no symptoms whatever. The circumstances attendant on these nine cases, therefore, must convince us that softenings produced mechanically, or by *post-mortem* changes, have frequently been mistaken for those dependent on inflammation, and must necessarily be so, so long as unaided sight is made the sole means of forming a judgment with respect to their nature.

The second proposition is established by three cases, in which, although the symptoms of inflammatory softening were present, and the lesions were carefully sought after by experienced morbid anatomists, it could not be discovered until the microscope was employed. "If, then," says the author, "the two propositions formerly stated have been satisfactorily proved, and it is agreed that pathologists have been confounding inflammatory with non-inflammatory softening, and overlooking the former, although undoubtedly present, it must be evident that many of the contradictions which have existed in connexion with the pathology of nervous diseases may be accounted for. It must also be clear, that no confidence can be placed in the analysis of cases, however numerous, when the sources of error now indicated have not been carefully excluded."

Very interesting observations follow on five important topics connected with inflammation of the nervous centres—namely, *1st*, The colour of softenings : *2d*, General relation between the symptoms and the seat of the lesion : *3d*, Contraction of the limbs, as a symptom of inflammatory softening : *4th*, Curability of softening : *5th*, The connection between softening and hæmorrhage. Dr Bennett does not consider the inquiry perfect, but draws from his researches the following conclusions :—

1. That two kinds of cerebral and spinal softening exist, an inflammatory and a non-inflammatory, which may always be distinguished from each other by means of the microscope.

2. That inflammatory softening is characterized by the presence of exudation corpuscles and granules, whilst in non-inflammatory softening these bodies are never found.

3. That the nature of inflammatory softening consists in the formation and development of nucleated cells in exuded blood-plasma ; whilst the nature of non-inflammatory softening consists in the mechanical destruction or maceration of the nervous tissue in serum, or is the result of putrefaction.

4. That non-inflammatory softening, unaccompanied by hæmorrhage, is usually *post mortem*, and causes no symptoms ; whilst uncomplicated inflammatory softening always causes marked symptoms, which, however, vary according to the seat of the lesion.

5. That the inflammatory and non-inflammatory softenings have frequently

been confounded together by morbid anatomists, it being impossible to distinguish one from the other, with any certainty, by the naked eye.

6. That inflammation in the nervous centres has in several instances been demonstrated by means of the microscope, after it has escaped the search of good morbid anatomists, and been indicated by the most unequivocal symptoms.

7. That every different coloured softening has at various times been found to be connected with inflammation, but that yellow and white softenings are most frequently non-inflammatory, whilst the fawn-coloured softening is commonly inflammatory.

8. That red softenings usually depend on congestion, or the direct extravasation of blood; yellow softenings on the imbibition of the colouring matter of the blood; fawn and grey coloured softenings on the presence of brown exudationcorpuscles; and white softenings, in the great majority of cases, are *post mortem*, and the result of maceration in serum.

9. In no single instance has softening of the nervous centres been traced to the presence of infiltration of pus.

10. That inflammation of the central parts of the brain generally produces well-marked lesions of sensation and motion, whilst in inflammation of the peripheral portions, lesions of intelligence are commonly well pronounced.

11. That in idiopathic inflammatory softening of the brain, contraction in one or more limbs is a common symptom.

12. That the fawn-coloured spots described by Dr Sims are no evidence of the cure of inflammatory softening.

13. That inflammation accompanying hæmorrhages is usually consecutive.

14. The softening surrounding apoplectic clots or sanguineous infiltration is no proof of inflammatory action.—*Edinburgh Medical and Surgical Journal*, No. 157, October 1843.

ON EPIDEMIC INFLUENZAS, WITH SPECIAL REFERENCE TO AN EPIDEMIC CATARRHAL FEVER AT PRESENT PREVAILING IN AMERICA. BY DR FORRY.

A paper, with the above title, appeared in the *New York Journal of Medicine for July 1843*, by the editor of that work, Dr Forry. It was written before the author had ascertained any facts, which the experience of similar epidemics had not afforded, so that a few brief quotations will give our readers all the recent information it contains.

"The epidemic, at the present time (July 1), may be said to prevail over all the New England States, extending as far south as Virginia, and as far west over the region of the great lakes, as the most remote points from which it had been practicable to receive information. Along these parallels, the invasion seems to have been simultaneous, as we have positive information that the disease raged severely at Milwaukie, on the western side of Lake Michigan, as early as in the city of New York. But it seems not, from the latest accounts, to have extended as far south on the Atlantic coast, to Charleston, notwithstanding we hear of it at Baltimore, Washington City, and in certain parts of Virginia; but, in the Mississipi Valley, it had reached as far as St Louis." It is best known by the terms influenza, and *la grippe*.

"In the present epidemic, the duration of an attack is from a day or two to a week or fortnight; but in the majority of cases, a critical sweat, attended with free expectoration, appears on the third day, with a banishment of the fever on the fifth. Debility and vertigo have always been observed as among the most remarkable features of influenza; and these two symptoms have been very marked in the present visitation. We have seen some patients, who, even in the state of convalescence, could not rise from the horizontal posture without a tendency to sudden fainting. But there will necessarily be many complications of disease in the epidemic, dependent partly on atmospheric conditions, and partly on the predispositions of the individuals affected; and of these complications, the most frequent and important are, inflammation of the bronchial tubes, lungs, and pleura, or of the brain and its membranes, neuralgia, cutaneous eruptions, and acute articular rheumatism, or merely sharp flying pains.

These various results have doubtless been observed by every physician in the present epidemic. In some, the leading complication is cynanche tonsillaris; in others, it is bronchial, attended with difficult and oppressed respiration, which, in very old and debilitated subjects, presents the character of a suffocative catarrh; in a third class, the disease falls more particularly upon the mucous membrane of the stomach and bowels, indicated by diarrhœa, mucous evacuations, and sometimes abdominal tenderness; in a fourth class, the complication is decidedly cerebral, characterized by vertigo, delirium, and erysipelatous eruptions on the face; others, again, will have the rheumatic or neuralgic complication; and, lastly, there is a typhoid form, marked by extreme prostration of strength, great weakness of pulse, and other symptoms of adynamic fever, but this last fortunately rarely occurs, being almost exclusively confined to the poor and badly nourished." P. 72,

"Generally speaking, it is best to commence the treatment with calomel and compound extract of colocynth, followed by a saline purgative; for, in nearly all cases, in the present epidemic there is more or less derangement of the chylopoietic viscera; and even should there be no such indications, these measures will obviate congestion, and diminish the liability to local inflammation. Should intestinal irritation in some degree be present, mercury in a milder form, as blue pill mass, combined with an anodyne extract, may be employed, to be followed by castor oil. Should the case be sufficiently severe to require the confinement of the patient to bed, mild diaphoretics, as the acetate of ammonia, should be administered; and this may be combined with ipecacuanha as an expectorant, or with antimonial wine, in the event of bronchial irritation. If there is much pain of the frontal sinuses, or distressing cerebral symptoms, a few leeches applied to the Schneiderian membrane often afford decided relief."—*New York Journal of Medicine* for July 1843.

ACCOUNT OF THE EPIDEMIC FEVER PREVALENT IN GLASGOW IN 1843—ITS RESEMBLANCE TO SOME OF THE DUBLIN EPIDEMICS—ITS IDENTITY WITH THE DUBLIN EPIDEMIC OF 1826—CASES OF AFFECTION OF THE EYES RESULTING FROM THE GLASGOW FEVER OF 1843—REMARKS ON THE STATISTICS, SYMPTOMS, DIAGNOSIS, STAGES, PREDISPOSING AND EXCITING CAUSES, PROGNOSIS, AND TREATMENT OF POSTFEBRILE OPHTHALMITIS. BY DR M'KENZIE.

The cases of eye-disease, which I am now about to comment upon, being the result of an epidemic fever which has prevailed in Glasgow during the greater part of 1843, it may be proper to give some account of the fever itself, before proceeding to describe the very serious affection of the eye, to which in so many instances it has given origin.

A remarkable change has taken place in the epidemic constitution of Glasgow during the present year. Exanthematic typhus, that is to say, a continued fever, characterised, along with other symptoms, by an eruption over the body, resembling measles, averaging a course of twenty-one days, and proving fatal to an extent of about 10 per cent., has been supplanted by a remittent fever, sometimes attended by petechiæ, but not with the measly eruption, often accompanied with jaundice, its first paroxysm coming to a crisis within seven days, a relapse happening almost invariably, but the patient rarely suffering more than two paroxysms, and the mortality not exceeding 3½ per cent.[1]

This remittent fever has prevailed chiefly from the beginning of June to the end of September; but I am informed that the disease existed as early as September 1842, although it was then generally regarded as a catarrhal fever or influenza, or as a simple continued fever. Since the first week of October 1843, the number of cases has sensibly decreased. The disease has prevailed only among the poor, and in the ill-ventilated and filthy parts of the town. Any cases which have occurred among the better ranks, have generally been traced to the communication of the individuals seized, with patients in those parts of the town where it abounded. Among the poor, no febrile disease, that I am aware of, has spread to the same extent. Since January, probably 15,000 persons have been affected with it in Glasgow.

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[1] Is not this an under estimate ?—EDITOR.

Symptoms of the Fever.—The disease commences with the usual symptoms of fever,—rigors, headach, and sickness. A striking feature is the frequent and excessive vomiting, or straining to vomit, attended by pain throughout the whole body, somewhat resembling rheumatism. There are often no premonitory symptoms, the attack being very sudden, and marked by excessive weaktoms. One little boy, whom I saw, was seized on the street, and fell down, so that he required to be carried home. In some of the cases, the disease resembles very much sea-sickness in its accession, both in respect to the prostration of strength by which the vomiting is accompanied, and the total indifference of the patients whether they are to live or die.

The pulse, in general, is not greatly accelerated, averaging about 100. The tongue is not much loaded, but rather clean; after a time it becomes brown and dry. Especially in the night, the patient is delirious; he is often affected with subsultus tendinum; he cannot sleep, tosses continually, and insists on getting up.

Epistaxis in some, and jaundice in others, are of frequent occurrence. When the disease attacks women about the menstrual period, the discharge is very copious; and almost all the women in a state of pregnancy, who are seized, abort, if in the early months, or have premature labour, if farther advanced. If pregnant women, affected with the fever, go the full time, sometimes the child is dead; or, if born alive, the mother has no milk, and has a troublesome and lingering recovery, while the child generally dies for want of support, or perhaps from being affected with the fever.

At the height of the disease, the symptoms are the same as at the beginning, only of greater violence. A convulsion-fit is not an uncommon thing immediately before the crisis.

There is no certain period when the first crisis happens. The patient is generally several days ill, say five or six, when a decided change takes place by profuse perspiration during the night, generally preceded by a severe rigor. Next morning the patient expresses himself as if in a new world; the tongue has become moist, the thirst is greatly abated, and he is free from sickness and headach. In old people, there is little or no perspiration at the crisis; but the change is at once observed by the more agreeable expression of the countenance, and the manner of speaking.

Some patients have a very short remission, and others have one of considerable length. In some it lasts only for three or four days; in others for two or three weeks. Very few escape a return of the fever. Whether they get up, and perhaps go out of doors, or confine themselves closely to bed, nineteen out of twenty relapse. Where the first attack is mild, the second is generally more severe, and *vice versâ*. If any improper freedom be used in diet during the remission, the second attack is generally more severe than the first.

The relapse occurs with the very same symptoms as the original attack.

The general duration of the second attack is much about that of the first, the second crisis taking place sometimes in two or three days, but more commonly not before four or five. If there be any difference in the symptoms of the first and second attacks, it is in the pains throughout the body being of greater severity in the second.

A second or third relapse is rare; but I am informed that some patients who had the disease about four months ago, with its paroxysmal character well marked, and who therefore thought themselves secure, have again been seized with it, and gone through all its stages a second time,—a circumstance which, along with others already mentioned, serves to distinguish this fever from exanthematic typhus.

Various sequelæ are observed to arise from the present fever; such as pains in the joints, want of power in the extremities, œdema of the feet, enlargement of the glands about the neck, boils in different parts of the body, and long-continued debility. But the most remarkable is the amaurotic and inflammatory affection of the eye, afterwards to be described.

Treatment of the Fever.—A question naturally occurs, whether this disease can be checked at the commencement by any particular mode of treatment; such as by emetics. So far as I have learned, attempts of this kind have been unsuccessful.

On the question, whether quina prevents the relapse, I find there is a diversity of opinion; some practitioners finding it effectual for that purpose, but the generality either not trying it at all, employing it only in small doses, or finding it inefficacious. Wine, even in large quantities, does not prevent the relapse.

This fever appears to be highly contagious.

It appears to have supplanted in a great measure all other diseases, especially typhus fever and dysentery.

The smallness of the mortality, compared with the severity of the symptoms, and the debility it leaves behind it, is a matter of surprise. Considering all the circumstances, it is wonderful that there have not been six deaths for every one that has occurred. The deaths have been chiefly among the aged, young children, and persons of broken-down constitutions.

This disease is never observed to merge in exanthematic typhus.

I am unable to say whether this species of fever has ever been previously known in Glasgow. That it has at different times prevailed in Ireland, is rendered highly probable from the fact, that the course observed by some of the Irish epidemics corresponds exactly with that of the fever now present in Glasgow, while the complete identity of this fever with that which prevailed in Dublin in 1826, is proven by the exact similarity of the affection of the eye, observed as a sequela in both instances.

In Rutty's *History of the Diseases of Dublin during Forty Years*, we meet with several instances of an epidemic of the same character with that now under consideration. Thus, in July, August, September, and October 1739, a fever prevailed, which was "attended with an intense pain in the head. It terminated," says he, "sometimes in four, for the most part in five or six days, sometimes in nine, and commonly in a critical sweat: it was far from being mortal. I was assured of seventy of the poorer sort at the same time in the fever, abandoned to the use of whey and God's good providence, who all recovered. The crisis, however, was very imperfect, for they were subject to relapses, even sometimes to the third time." (P. 75.) He describes the same remittent fever as occurring also in 1740, 1745, 1764, and 1765; noticing as a circumstance of the disease in 1765, that the bowels were in some instances remarkably affected.

There appears considerable resemblance between the present fever and that described by Dr Stokes, as prevailing along with typhus gravior in Dublin in 1816. He speaks of it as a *typhus mitior*, its usual course being from three to nine days, generally terminating on or before the seventh day, but very apt to relapse on the third or fifth day from the favourable change.

The Dublin epidemic of 1826, with which the present fever corresponds so exactly in its effects on the organs of vision, was also a remittent fever, as appears from the accounts published of it by Dr Reid and Dr O'Brien. It was often attended by jaundice, and by pains in the bones; its crisis happened generally about the seventh day; the patients were very apt to relapse; the number attacked was very great, but the mortality comparatively small;—in all which particulars its analogy to the present Glasgow fever is borne out.

Typhus fever is sometimes followed by muscæ volitantes, or even by amaurosis, and in some rare instances by phlebitic ophthalmitis. Certainly no febrile disease with which we have been hitherto acquainted in this country is followed by such an inflammatory affection of the eye, as that which I am about to describe. I have known the disease which is called hay fever, followed by intermittent ophthalmia, of iritic character. Dr Lawrie informs me that remittent fever in India is sometimes followed by corneitis, and sloughing of the corneæ.

I shall now select, from the journals of the Glasgow Eye Infirmary, a few cases illustrative of the affection of the eye, which has appeared as a sequela of the remittent fever now prevailing. From the 8th August to the 31st October, when I finished my quarterly period of attendance, 36 cases of this description were taken on the list. The general subjects of the affection in question, have been from 17 to 20 years of age; but it has spared neither young children nor old people. The youngest out of the 36 was 18 months old; the oldest was 56 years. The general character of the disease has been partly amaurotic and partly inflammatory. In by far the greater number of cases, the eyes attacked had been previously healthy, but in some instances they had suffered from other diseases, and in one case they were already in a great measure disorganised.

CASE 1. *Amaurosis and ophthalmitis after remittent fever—treated by leeches, calomel and opium, belladonna, blisters, and quina—complete recovery.*—No. 13185.—*August* 8, 1843. Margaret Spence, aged 12, was seized with remittent fever, which she calls influenza, nine weeks ago. Right eye became red three weeks ago; conjunctiva still somewhat red; pupil dilated, and does not contract readily on exposure to light; vision of right eye so dim, that she does not see the eyes of a person sitting before her; circumorbital pain; pulse 108.—*Hirud. vj ad temp. dext.—R. subm. hydr. gr.iv; pulv. opii, gr.j. M. ft. pulv. hor. som. sumend. Cras mane sulph. magn. ℥ss.*

9th. Less pain; vision rather better.—*Extr. bellad. ad palp. dextr.—R. subm. hydr. gr.xij; opii gr.ij; sacc. alb. ℈j. M. opt. et divide in pulv. xij; cap. j 8â qq. horâ.*

10th. More pain.—*Hirud. vj ad palpebr. dext.*

12th. Eye easier, and less red; vision rather better; right cornea more than naturally flexible.—*Rep. sulph. mag. Vesicat. pone aur. dextr.*

13th. Pain subsides; vision improves.

15th. Sees best when she looks over her nose.

16th. Rep. belladon. Vesicat. ad temp. dextr.

17th. Pupil widely dilated, and vision consequently more obscure.

18th. Pupil not so widely dilated; vision improved; no pain.

21st. Cap. pulv. subm. hyd. et opii, j, in dies tantum. Rep. vesicat. pone aur. dextr.

27th. Vision much improved; pupil of natural size; has caught cold, and complains of pain in the chest.—*Pediluv. tepid. vespere. Omit. medicamenta.*

28th. Hirud. vj ad pectoris partem dolentem. Cap. ol. ricini, ℥ss.

29th. Relieved by the leeches.

30th. Is confined with measles.

Sept. 6. Dimness of sight of right eye still continues.—*Vesicat. parvum ad temp. dextr.*

13th. Bowels loose.—*Cap. q. p. tinct. opii, gtt.x.*

15th. Bowels still loose.—*R. opii gr.j. Cretæ ppt. ʒij. M. et div. in pulv. xij. Cap. j, post sedes singulas liquidas.*

24th. Cap. sulph. quin. gr.j, ter in dies.

Oct. 15. Says her eye is perfectly well.—*Omit. remedia.*

CASE 2.—*Retinitis and amaurosis after remittent fever—Complete cure by leeches, calomel and opium, blisters and quina.*—No. 13186. *August* 8, 1843. Margaret Paterson, aged 11, had remittent fever in the end of June. Eight days ago right eye appeared red. The conjunctiva and sclerotica are moderately injected; the iris is of a green hue; the pupil somewhat dilated, and very sluggish; the retina retains merely a perception of light and shade. No pain of head; pulse 120; tongue clean.—*Hirud. vj ad temp. dextr.—R. subm. hydr. gr.iv; pulv. opii gr.j.—M. ft. pulv. hor. som. sumend.—Cras mane sulph. magn. ℥ss.*

9th. Tells a pen and other objects with right eye.—*Rep. pulv. et sulph. magn.—Vesicat. pone aur. dextr.*

10th. Eye painful; much lacrymation; vision again worse.—*Hirud. vj ad palp. dextr.*

14th. Symptoms subside. Sees best when she looks dextrad.—*R. subm. hydr. gr.xij: pulv. opii gr.j; sacc. alb. ℈j.—M. div. in pulv. xij.—Cap. j. o. n.*

15th.—Vesicat. pone aurem dextr.

19th. Has by mistake been taking a powder thrice a-day.—*Cap. pulv. j, o. n. tantum.*

22*d*. Right pupil not so much expanded as left. Vision improves slowly; is still most defective when she looks sinistrad.

25*th*. Vision continues to improve.—*Omit. pulv. subm. hydr. et opii.—Cap. sulph. quin. gr.j ter in dies.*

27*th*. Still improves.

Sept. 1. Vision much improved.

3*d*. Bowels confined.—*Cap. pulv. jalap. comp. gr.xv.*

6*th*. *Cont. quina.*

12*th*. Continues to improve.

20*th*. Says her eye is quite well.

Case 3.—*Iritis after fever—treated with quina, leeches, and vesication.*—No. 13223. *Aug*. 26, 1843. Catherine M'Donald, aged 55, has been labouring under the epidemic fever now prevalent. Right eye affected with iritis. Iris discoloured; pupil hazy; vision dim; nocturnal pain in eyeball, preventing sleep. Pulse 96, small.—*Belladon. ad palp. dextr.—Cap. sulph. quin. gr.ij,* 8và *q. q. horâ.*

29*th*. Pain not relieved.—*Hirud. vj, ad palp. dextr.—Cap. ol. ricini ℥j—Hodie omit. quina.*

Sept. 1. Eye easier; vision clearer.

8*th*. *Vesicat. pone aur. dextr.*

14*th*. Much improved.

Dr M'Kenzie narrates very clearly other thirteen cases, illustrative of the disease, which we regret we have not space to give.

Remarks.—The cases above related may serve to give an idea of the affection of the eyes, which has in so many instances followed the fever now prevailing, and of the treatment which I have employed for it. I have generally called the disease *ophthalmia post febrem,* but perhaps the appellation of *ophthalmitis postfebrilis* is more correct.

Statistics.—The following are a few statistical facts, which may be worthy of notice:

Out of the 36 cases which I treated in August, September, and October, 27 occurred in females, and only 9 in males.

The following were the ages of the 36 patients: Below ten, 2; from ten to twenty, 17; from twenty to thirty, 9; from thirty to forty, 2; from forty to fifty, 3; from fifty to sixty, 3.

In 18 of the cases, the right eye only was affected; in 10, the left only; and in 8, both eyes, either together or consecutively.

The attack of ophthalmitis occurred at various periods from three to sixteen weeks from the commencement of the fever. In several cases it came on about two weeks after convalescence from the relapse, but generally somewhat later.

The very same disease of the eye occurred after the Dublin epidemic of 1826, and was described by Mr Hewson, Dr Reid, Dr Jacob, and Mr Wallace.

Dr Jacob has remarked, that the disease occurs much more frequently in young than in old persons. Of thirty cases in which he noted the ages, three only were above 25. He also met with it more frequently in females than males. In the majority of the cases seen by him, the inflammation made its appearance within six weeks or two months after recovery from the fever; in some instances, however, it appeared before the patients left the hospital, and in others not for four, five, or even eight months.

Symptoms.—The character of the disease appears to be, in the first instance, that of congestion, followed by inflammation of the internal parts of the eye, and especially of the retina, producing great imperfection of sight. This is succeeded by evident inflammation of the iris and sclerotica; the disease extends to the capsule of the lens, and sometimes to the lining membrane of the cornea; there can be little doubt but that the choroid is also inflamed; while the conjunctiva remains in general but slightly affected.

The part which the sclerotica takes in the disease is plain enough, from the intense injection of the blood-vessels which lie on its surface, and which, derived from the muscular and anterior ciliary arteries, are seen running in radii towards the cornea. The change of colour in the iris, the contracted state of the pupil, and the tags of adhesion between the edge of the pupil and the capsule of the lens, show the part which the iris takes in the disease. The internal membrane of the cornea, and the anterior crystalline capsule, especially the latter, are extremely muddy, showing their participation in the inflammation. The whole walls of the aqueous cell seem, in some cases, as if coated with a thin layer of lymph, of a yellowish-green colour. The great deficiency of sight is not explicable from the mere muddiness of these parts, and is, besides, often the earliest symptom of the disease, showing an affection of the retina. At an early period, the pupil is sometimes dilated, and does not become contracted till the inflammation embraces the iris. If not promptly combated by the appropriate remedies, the cornea and sclerotica become preternaturally flexible under the pressure of the finger, showing that the disease has extended to the vitreous body. In one case I found the cornea very flexible in the amaurotic stage, before there was any appearance of inflammation.

The lacrymation is very considerable, and seems to be connected, not so much with the state of the conjunctiva, as with the pain in the interior of the eye-ball. The severe pain in and round the eye, aggravated during the night, is exactly similar to what attends rheumatic and syphilitic ophthalmia, and may partly be ascribed to the pressure exercised upon the ciliary nerves within the eye, by the inflamed parts, partly regarded as a direct neuralgic affection, such as we often meet with in the six branches of the fifth nerve which emerge from the orbit, when there is no evident inflammation present.

Although, in by far the greater number of cases, all the textures of the eye suffer in this disease, on which account it may be designated as an *ophthalmitis*, it sometimes happens that the inflammation is confined to one or two textures only.

The pulse varies from 84 to 120. Frequently rigors occur. The tongue is generally clean and moist. The pain entirely prevents sleep.

Diagnosis.—The present disease is much more extensive, in respect to the number of textures affected, and much more intensive, in so far as the morbid action which is at work is concerned, than rheumatic ophthalmia, or rheumatic iritis; to which, however, in many particulars, it bears a resemblance. Yet, along with postfebrile ophthalmitis, we have neither the bounding pulse, the hot skin, nor the white and loaded tongue, which attend inflammation of the sclerotica and iris from mere exposure to cold. Neither is the blood drawn from a vein so buffy. The pain is not less distressing. Vision is much sooner, and much more seriously involved.

Mr Wallace considers this affection of the eye as bearing so very striking a resemblance to syphilitic ophthalmia, that the one cannot be distinguished from the other, without particular attention to the history of the case. The absence of the tawny-reddish border which surrounds the pupillary margin of the iris, and there being no tubercles on the iris in postfebrile ophthalmitis, will serve to distinguish the two diseases.

The acuteness of the present disease will discriminate it from scrofulous iritis, to which, particularly in the appearance of the lens, it bears considerable resemblance, as well as in the degree in which the retina is affected.

In some instances, postfebrile ophthalmitis bears a considerable resemblance to catarrho-rheumatic ophthalmia. Onyx, so frequent in the latter disease, I have not witnessed in the former.

The disease to which postfebrile ophthalmitis bears the nearest resemblance, is sympathetic ophthalmitis, which results so frequently from incised and lacerated wounds of the edge of the cornea and sclerotica, and consequently of the annulus albidus of the opposite eye. The cause of the great similarity is, that in both cases the inflammation commences in the retina, advances to the iris, embraces all the internal textures of the eye-ball, and ends, if neglected, in closure of the pupil, opacity of the crystalline, softening of the globe, and insensibility to light. The slightest inquiry into the history of the case will in either instance elucidate the origin of the affection.

Predisposing and exciting causes.—That an opportunity is left for the disease of the eye by the fever is plain; there may even be grounds for suspecting that the fever may have left the circulating fluids in an altered state, favourable for the production of the local complaint. However this may be, the affection of the eye is generally traceable to some exciting cause, and especially to cold. Sleeping in an apartment with broken windows, working in a cold damp shop, and washing the head with cold water, are mentioned in the cases as exciting causes. Using the eyes too early in sewing is another.

Prognosis.—The recovery is tedious. In the majority of cases, two months of uninterrupted and careful treatment has been necessary to effect a cure. That the disease, without any treatment, will wear itself out, is true; but the eyes will be left useless, from the contracted and adherent state of the pupil, and the amaurotic condition of the retina. If taken early, and treated vigorously, a complete cure may be prognosticated. Recovery is much more speedy and complete in young subjects; in adults it is more tedious.

TREATMENT.—1. *Depletion.*—The wan appearance of many of the patients, the smallness of their pulse, and the state of general debility in which they are, might tend to deter from a use of the lancet. I am satisfied, however, that we can rarely, with safety, dispense with this remedy.

If depletion is neglected, the recovery is very slow and uncertain; adhesions form, and cannot be got rid of, and vision continues imperfect. We must not be regulated by the pain alone in taking away blood. Nothing relieves the pain so strikingly and effectually as venesection; but the state of the eye, independently of the pain, demands the taking away of blood.

Some cases, especially in children, I have trusted to leeching; but in adults venesection is almost always necessary.

2. *Purgatives.*—The tongue being generally clean, and the bowels regular, there seems to be little demand for purgatives. At the same time, I have found them of considerable use in the course of the treatment.

3. *Mercury.*—I am decidedly of opinion, that the safest, and the most effectual plan of cure embraces the use of calomel with opium, exactly as in the treatment of rheumatic or syphilitic iritis. This view of the matter is confirmed by the testimony of Mr Hewson, who seems to have trusted to opening the temporal artery, and giving a dose of three grains of calomel with half a grain of opium each night. Dr Jacob also found the use of mercury so certain and decisive in this affection of the eye, that he trusted to it almost exclusively. The mouth should be made sore, but not too suddenly, lest we be obliged to omit the medicine prematurely.

4. *Belladonna.*—The dilatation of the pupil is an essential part of the treatment. This is to be effected by liberally smearing the eyelids and eyebrow with the moistened extract of belladonna, morning and evening; directing the patient to renew its activity from time to time, by re-moistening it with his finger dipped in water.

5. *Counter-irritation.*—Considerable benefit is derived from blisters to the temples and behind the ears, after due employment of depletion. They aid in removing the pain, lessening the inflammation, and recalling the power of vision.

6. *Cinchona.*—I have not employed cinchona bark in powder, but the trials I have made of sulphate of quina have not led me to adopt any very high opinion of its efficacy in this disease. Some of the milder cases have yielded in a great measure, to the combination of calomel and quina. On the whole, I feel disposed to trust to this remedy; and on this point I find my views corroborated by the experience of Dr Jacob.

I shall not unnecessarily extend this report by commenting on the advantages to be derived from regulating the diet of the patient in this disease, and protecting him from cold; on the utility of warm fomentations, and anodyne frictions; nor on the problematical effects of such internal remedies as tartar emetic, colchicum, or turpentine, which I have not tried.—Abridged from the *Medical Gazette* for 1843.

On some of the Characters which distinguish the Fever at present Epidemic, from Typhus Fever. By Professor Henderson. (Read before the Medico-Chirurgical Society of Edinburgh, December 6, 1843.)

I beg to remark at the outset, that in this paper it is my intention to confine myself to a concise declaration of facts, which I have been enabled to determine with precision and certainty, adding such inferences as may appear to be plainly warranted by the particulars which shall be adduced. The difficulties which encumber inquiries into the subject of fevers may be reduced to three heads,—

1*st*, Continued fevers have a number of characters which are common to them all.

2*d*, The fundamental element of their pathology is unknown.

3*d*, There has been a very great deficiency of investigation, of an exact and logical kind, into the circumstances by which fevers are produced.

Although it is granted that nothing is known of the actual nature and constitution of the poison or poisons by which continued fevers are produced, it is admitted that they are produced by some poison or other. Certain physicians, and able ones too, while they allow this, deny that the poison which produces typhus fever is of a specific nature, and always precisely the same; and they conceive that the variable nature of the poison is one very influential source of the many diversities which are discovered among continued fevers, but in which diversities, notwithstanding, they recognise essentially the same disease. Such assertions have given rise to the greatest difficulties which belong to the subject. I think it admits of the most satisfactory proof, that if two fevers, strikingly dissimilar in many important characters, should prevail at the same time in a community, and both of them undeniably infectious, if we should find in the case of persons infected with either, the disease, of which kind soever it may be, clearly traceable in each case to infection received from persons labouring under the same disease, like producing like, would we not have just grounds for concluding, though we could not tell the qualities of the poisons, that they were essentially different?

"*In* the endeavour to determine and to show that a real and fundamental distinction exists among fevers, it is necessary that accidental diversities should be carefully separated from essential characters, and this rule has been scrupulously attended to in regard to those points which I conceive to exhibit the most conclusively the broad distinction which should be made between the two diseases which are contrasted in the following pages. And, in order that I may not appear to have reached the conclusion, that they are essentially distinct diseases, without having duly ascertained what are the distinguishing peculiarities of each, and that the characters which I consider as such are really distinguishing peculiarities, and not mere accidents of a somewhat unusual kind, what I may state, that I have been led to deem the distinguishing peculiarities of typhus, as compared with the other fever, have been founded on a very careful study of that disease for seven years past, in, at a moderate estimate, from 1600 to 2000 cases. My opportunities of observing the present epidemic have, of course, been much less numerous; but its characters are so very unlike those which have appeared peculiar to the other disease, that my own less extensive observation of them is of little consequence, seeing that the same description of the disease, in some of its leading particulars, is given by every one who has seen much of it, and has observed it with discrimination." P. 205.

"The present epidemic began to prevail in February last, and the very first cases *which fell* under my notice I distinguished, at once, as widely different from *every fever* that I had formerly seen. The first circumstance which *struck me as remarkable*, and unlike what I had witnessed in typhus fever, *was the much greater* frequency of the pulse in the new disease at an early *period of its existence*. We do not, in hospital practice, witness cases of typhus *fever often before* the eighth day of their duration, and still less frequently *before the sixth*, so that in looking over my case-books of typhus fever, so far as my time would permit, I have been able to discover only fifteen instances of admission into hospital on or before the fifth day. In reference to the comparison to be laid before the Society, of the frequency of the pulse in the two diseases, it is necessary to limit it to the first five days of each; because, at the end of that period, the epidemic fever commonly terminated in its first convalescence or intermission. I find the average frequency of the pulse in the fifteen examples of typhus, observed on or before the fifth day of their duration, to be exactly 100 in the minute; while in thirty-eight cases of the epidemic fever, which became convalescent at the end of the fifth day, the average frequency is 123. I need scarcely remark, that these thirty-eight cases have not been selected; they composed all the cases terminating on the fifth day, of which I had taken daily reports up to the time at which the calculation was made. In the fifteen cases of typhus the frequency of the pulse exceeded 104 in only two instances; in the thirty-eight cases of the epidemic fever it did so in thirty-seven; in the thirty-eighth it was 100 on the fifth day; but what frequency it had previously had is not known. In thirteen of the cases of typhus fever the pulse was at or below 104 in the first five days; in eight only of the thirty-eight was it below 120. The difference thus exhibited in exact terms between the two diseases, in regard to the early frequency of the pulse, justifies the impression which had been left on my mind, of the less amount of frequency usually noticed in the pulse in the early periods of typhus, before I had examined the case-books with the view of ascertaining the point more particularly, and also the general rule derived from that impression, which, at the outset of the epidemic, I stated to the pupils of the hospital as calculated to enable them to determine, at a very early period of our fevers, with something approaching to certainty, of what kind the fever would eventually prove to be, whether a short or a protracted one. But it is not only in reference to this point that a particular attention to the frequency of the pulse in the two diseases is of consequence. I think it furnishes, besides, some grounds for presuming that there must be a very important dissimilarity in the nature of the two diseases. For an extreme frequency of the pulse in the epidemic fever seems to be an occurrence warranting no apprehension of a fatal issue, and no anticipation of any greater severity in the other symptoms than in such cases as have a pulse twenty or thirty beats lower,—thus, I have known the pulse, in a considerable number of cases, amount to 140 or 145, on the second and third days of the fever, and yet the other symptoms of no peculiar severity, and the crisis on the fifth day take place as usual, whereas the only case in which the pulse, in the fifteen examples of typhus, exceeded 120 on the fifth day, died on the seventh, and in that instance it was 134 on the fifth day, and 144 on the sixth. Among the cases of the epidemic fever of which I have preserved daily reports, and which ended on the fifth or seventh day, amounting to fifty, I find nine in which the pulse exceeded 135, and of these one died; and among sixty-eight cases of typhus fever, not selected of course, I find thirteen in which the pulse exceeded 134, and of these five died, giving a proportion in the one set of cases of a mortality, in connection with an extreme frequency of the pulse, of about 11 per cent., in the other of about 38 per cent. A high frequency of the pulse is well known to practical men to be a very alarming symptom in typhus, perhaps one of the most alarming next to those which almost invariably proclaim approaching dissolution, and yet this significant symptom of danger in our more common epidemics has no special indication in the present fever; for the fatal example adverted to, as having occurred among the nine examples of the epidemic fever, was that of a very feeble and miserable-looking man, whose case may be considered peculiar, and unfit for comparison, even in average estimates, with the common order of cases. I have said above, that, in only eight among thirty-eight cases of the prevalent fever, was the pulse below 120 within the first five days, and, I may add here, that of four cases seen first on the second day of illness, (few having been admitted earlier), one had a pulse beating 120, the second 132, the third 140, and the fourth 145; and of four cases seen first on the second day of a relapse, one had the pulse at 114, a second at 136, a third at 140, a fourth at 144. In other four cases seen within a few hours of the commencement of the relapse, the pulse beat respectively 120, 128, 120, 120. None of these cases died; but in what case of typhus, presenting a similar state of the pulse at so early a period, would the experienced physician hope for recovery? In typhus fever, we have seen that the ratio of mortality among those whose pulse exceeded 134 was 38 per cent., and it is not unimportant to add, that that high rate of frequency in typhus occurred in every instance but one, on or later than the ninth day of the disease, and, as I have already said, the solitary instance in which it occurred earlier, ended fatally on the seventh day. If we add the four cases in which the pulse, in the second paroxysm of the epidemic fever, exceeded 135, to the nine previously noticed, we have a mortality in this disease connected (supposing it to have been so, in the same sense as in typhus, in the single case which has been mentioned), with an extreme frequency of the pulse of 1 in 13, or less than 8 per cent." Pp. 206, 207.

"The next particular in which the two diseases admit of being contrasted is the comparative rapidity of convalescence. In the typhus of former years, and in exanthematic cases of fever, or unequivocal typhus, of the last nine months, the decline of the disease has invariably, in my experience, been gradual from day to day, nearly a third of the whole duration of the febrile state having been usually consumed between the period when the fever began to amend and that of its total cessation. In the epidemic fever, on the contrary, a few hours witness commonly the transition from a state of extreme febrile heat and frequency of the pulse, to that of complete freedom from every trace of fever. In the ordinary course of things, we find the individual, who, at one visit, presented a temperature of 104°, or 106°, and a pulse of 130 or more, at the next, if the term of his fever has arrived in the interval, with a temperature of 98°, and a pulse between 70 and 80. Nor is the critical discharge or secretion of the epidemic fever a less remarkable feature of difference between it and typhus. In a very few instances of typhus I have noticed a favourable change coincide with the occurrence of copious perspiration, but never a total cessation of the febrile state. In the great majority of instances, however, instead of copious perspiration coinciding in typhus with symptoms of amendment, it happens that it ushers in, or accompanies, a state of hopeless prostration, stupor, hurried breathing, and increased frequency of the pulse." Pp. 208, 209.

"A fourth particular in which the typhus and the epidemic fever differ very remarkably, is in the propensity to relapse. The latter disease very rarely consists of but one attack of a continued febrile condition, and, indeed, so characteristic of the disease is it to present a succession of attacks with apyrexial intervals, that the term relapse is not less inappropriate to the repetition of the fever than if applied to the paroxysms of an intermittent. The first attack usually extends but to five days, sometimes to seven, in a small proportion of cases to nine; and now and then cases occur of convalescence on the intermediate days, but very rarely. The subsequent attacks are less regular on the whole in the periods which they observe, some terminating within twenty-four hours; some in even a few hours, the paroxysm consisting of chilly feelings, speedily issuing in a hot fit, and more or less copious perspiration, or of inconsiderable febrile excitement and perspiration without chilliness; in a word, of the irregularities which occasionally distinguish common intermittents. The greater number, however, of the recurrent attacks are not in any respect different from the first, have commonly much the same amount of intensity, and the same disposition to extend to five, seven, or nine days. This observation applies not only to a second attack, but to a third, a fourth, and sometimes even to a fifth. I have not, indeed, witnessed a third, a fourth, or a fifth attack extend to nine days, and only in two or three instances have I known a fourth or a fifth attack happen at all." Pp. 209, 210.

Those who maintain that the poison is the same in typhus and the present epidemic, say that the differences in the effects may be owing to the individual peculiarities in the persons infected; but I have known nine instances of the very same persons exhibiting the two forms of fever within a very short time.

"I have not thought it proper to refer particularly to the absence, in the epidemic fever, of the exanthematous spots which are so common in typhus, as affording a ground for distinguishing them, because the latter disease does not always exhibit them in any epidemic, and appears much more subject to them in some epidemics than in others. Nor do I attach the same importance to the circumstances I am to notice next, as to those which I have already specified, though the practical and pathological interest belonging to them prevent me from withholding them from the Society on the present occasion. I allude to the affections of the spleen, of the urinary and biliary secretions, and of the blood, which have been noticed in the epidemic fever; and the reasons why I do not dwell upon these, as additional grounds of distinction between typhus and the epidemic fever, are, that jaundice has been sometimes noticed in true typhus, and that I am not prepared to maintain that the acute disease of the spleen, the functional disorder of the kidneys, and the morbid condition of the blood, do not occur in typhus. The jaundice, arising from the disorder of the liver, has made this to have been easily and often recognised in the course of the present eruption of this epidemic fever, as well as in several of those of the same disease which have been more or less fully described in former times. But I am not aware that the splenic affection, or the still more important disorder of the kidneys, had been noticed to occur in this fever, until after I had made them known, both in public and private, in the course of the past summer and autumn." P. 220.

In August I began to entertain a suspicion that the function of the kidneys was liable to be affected to an extent capable of producing most serious consequences, in consequence of convulsions supervening two or three days after a crisis of a paroxysm of fever. In one fatal case, three drachms of serum found in the ventricles of the brain were sent to Dr D. M'Lagan, who detected crystals of nitrate of urea in moderate abundance. Three ounces of blood drawn from the arm of another patient were sent to Dr M'Lagan, who was able to satisfy himself of the existence of crystals of nitrate of urea.

At one time I was inclined to consider the jaundice, which is apt to occur in the course of the fever, as a very formidable symptom. I am now in a condition to assert, that there is no proof that the jaundice is of any consequence—no proof that the jaundice has caused the cerebral symptoms. Henceforth he who asserts that he has lost a patient from jaundice, must be prepared to show that there was no urea in the blood.—Abridged from a long paper in the *Edin. Med. and Surg. Journal* for January 1844.

[The observations of Dr Henderson are upon the whole in accordance with those of ourselves and most others who have written on the same subject.

The detection of urea in one or two cases seems exceedingly to have unsettled the author. From experience in not less than 600 cases, we are certain that *those complicated with jaundice, viewed as a group, have been by far the most alarming and fatal*; not so much from head symptoms, we admit, as from other causes to which Dr H. does not advert. Is Dr H. prepared to explain the connection between the yellow surface and the existence (real or supposed) of urea in the blood? Dr H. is, we think, hasty in supposing that the "splenic affection" and "disorder of the kidneys" in this fever were first described by him during last summer. Had he looked into the description given by Hippocrates of a fever which seems to be identical with that now prevailing, he would have found the very same splenic affection accurately referred to, as Dr Spittal showed the other evening at the Medico-Chirurgical Society of Edinburgh. (*Vide our report in the present Number.*) Dr Graves, speaking of the similar epidemic which prevailed some years ago in Dublin, says, "We have found the spleen very much enlarged in almost all (of the fatal cases which were dissected.) When the spleen in acute cases is thus engorged and distended, it is invariably softer than natural." In the prevailing fever, even a tolerably observant physician could not fail to notice this symptom. As to the "disorder of the kidneys," Professor Henderson must be well aware, that "the yellow fever" is or was by many practitioners treated chiefly by diuretic remedies, and that long ago, head symptoms of a particular kind, occurring in the course of fevers and other diseases, have been ascribed to urea in the blood, acting as a poison.]

An Account of the Glasgow Epidemic of 1843. By William Reid, Esq. Surgeon.

This epidemic made its appearance in Glasgow about twelve months ago. My attention was first attracted to it about the end of January 1843. Scattered cases, gradually increasing, occurred in February, March, April, and May; but during the five following months, these multiplied to an extent unparalleled in the history of diseases in this country.

The symptoms of this disease are invariably ushered in by rigors; the patient often vomits a quantity of bilious fluid; always complains of pain in the head, back, and extremities. The prostration of the animal powers is most overwhelming. The pulse ranges from 100 to 120, and is seldom lower. The disease runs its course in from five to seven days—never, in my practice, terminating before the sixth, or continuing after the eighth day. The crisis is generally preceded by copious perspiration. The most remarkable and invariable circumstance connected with this fever, is its tendency to relapse: five per cent of my patients did not escape a second attack. The interval generally occupies the same number of days as the preceding attack. Towards the close of the first attack, there is a great tendency to the discharge of blood from the mucous surfaces, which seldom produces any beneficial change. It is almost always accompanied by profuse perspiration, and if the patient be pregnant, it most certainly induces abortive or premature labour: in the latter case, the child dies. Yellowness of the skin, with or without irritation of the stomach, is often to be met with: this complication did not add to the danger of the patient. Articular rheumatism, various in degree; delirium, chiefly of a hysterical character; and diarrhœa, with copious bloody stools, are not uncommon symptoms. The epidemic displays no partiality for particular ages; the mortality produced by it was trifling, and almost altogether confined to children under two years of age, or persons otherwise unsound. The disease is propagated by contagion. Emetics never checked the progress of the disease; the administration of medicines at the commencement and during the first three or four days, were far from satisfactory. Leeches to the head seldom gave relief; and the sense of debility was so overwhelming as to lead to caution in the use of the lancet. In the interval, various medicines were prescribed, with the hope of preventing a relapse of the distemper. Alteratives, with quinine, iodine, and iron, were unsuccessfully used. Within the last month, I have given the arsenical solution with this intention, and occasionally with seeming success. It is, however, more than probable that the partial success depended on the reduction of the temperature of the weather which then took place.—Abridged from the *London Medical Gazette* for 22d December 1843.

Account of the Epidemic Fever prevailing throughout Glasgow and its Neighbourhood. By Matthew H. Gibson, Esq., Surgeon.

Mr Gibson has had 114 cases of this singular disease under his charge since the commencement of the epidemic. It has been variously designated: at first it was called *influenza;* afterwards *yellow fever;* likewise *spotted fever;* and, lastly, *common typhus.* He has no doubt of the infectious character of the disease. The fever has two distinct and separate stages, or, rather, crises; the first taking place at the end of the 6th, 7th, or 8th day, and the second crisis concluding at about the same period, after a lapse of an intervening space of time of the same duration. He divides the disease into two stages; the second stage being nothing more than a mere repetition of the first, the only difference being the intensity of the symptoms. In every case of pregnancy which came under his observation, premature labour occurred sooner or later, during the existence of the fever. On an average, one in eight or ten of his patients was jaundiced. Muscular pains and rheumatisms were exceedingly common affections; they were principally confined to the extremities. Bilious vomiting and purging were exceedingly troublesome and exhausting; the matter vomited was green, sometimes yellow, and occasionally black. We give the following remarks as to treatment, in his own words.

"Regarding the treatment little, indeed, can be said; suffice it to say, that it was conducted on the principle of subduing the inflammatory affection of the stomach and duodenum, or what is generally termed the 'gastro-enteritis.' It is generally admitted, now, that an inflammatory state of the mucous membrane of the stomach and the beginning of the small intestines, is the primary seat of typhus fever, and assuming that the fever in question is nothing more than a *species* of that fever, if not exactly the disease itself, with the exception of an intermission of six or eight days, the treatment was principally directed to those organs, keeping always in remembrance, and watching carefully, the collateral organs, which had a tendency to become implicated during the progress of the complaint. The treatment administered in the contingent diseases was, of course, that which would have been adopted had they arisen independently of any other disorder; consequently it is altogether unnecessary to dwell at any length on the remedies employed."—Abridged from the *Lancet* for Dec. 9, 1843.

CARLISLE FEVER REPORT FOR 1843.

We make the following interesting extracts from a report of the state of the Carlisle House of Recovery for Fever, presented by the medical officers at the anniversary meeting of the governors:—"The febrile symptoms underwent some modifications during the different seasons of the year. In the beginning of the year, the head was the part chiefly affected; some of the patients had violent headach, and much delirium. In the spring, the chest was often the seat of congestion; coughs were frequent, and the fever was sometimes complicated with pleurisy and bronchitis. Derangement of the bowels and stomach was also occasionally met with; the head, chest, and abdomen, in some cases, were simultaneously affected. In the latter end of summer, there was an increase of fever, and the cases that occurred then were often complicated with an inflammatory state of the mucous membrane of the stomach and bowels. Some patients suffered much from sickness and vomiting, and had an unusually yellow or jaundiced appearance. As the year advanced, the cases became more numerous, and the fever sometimes assumed a more malignant type. In some patients there were symptoms of irritation of the bowels, and disorder of the biliary and other secretions, accompanied with jaundice, a complication or form of fever only lately observed in the practice of the hospital. Many of the patients were spotted with eruptions similar to those described in former reports of this charity. Two patients were admitted under certificates of fever who were affected with other diseases; one with peritonitis, and the other with rheumatic fever and disease of the heart.

"The average mortality resulting from this formidable and often fatal disease, during the past year, has been 1 in 13·8. The average stay in the house of those that were cured was about twenty-eight days. In a few cases the disease was protracted for several weeks. These were complicated cases. All the patients admitted under twenty years of age, recovered. Two patients were moribund, and one, who had previously suffered from inflammation of the lungs, was in a hopeless state, when brought to the house. One man, who died, had been in a very delicate state of health for a long time, and subject to fits of mania. Only two patients employed private medical attendants. In every case where there was high febrile action, cold, and sometimes tepid ablution of the body, and purgatives, were employed with great advantage. Strong and active remedies were seldom required, except, in complicated cases, to remove the superadded congestions and inflammation, for which moderate bleedings, both local and general, were had recourse to. Wine and other stimulants were seldom given. In simple fever, without local symptoms of functional derangement, or organic disease, mild and innocent methods of treatment were found most efficacious.

"Of 83 patients admitted with fever, there were 40 who attributed their illness to infection, 22 who attributed it to cold and fatigue, and 21 who could assign no cause for their illness.

"The benevolent views of this charity are not confined to those who are suffering from contagious fevers, and admitted into the house; they are extended to every person. To prevent the spreading of these diseases, by separation of the sick, and by cleansing and purifying their dwellings, is one of the great objects of this charity. A twofold benefit is, therefore, conferred—the cure of those labouring under these diseases, and, what to the healthy is of equal, if not greater, importance, since prevention is better than cure, the spreading of these fevers among all classes of society is often prevented.

"The great advantages of cleanliness and ventilation have been often dwelt upon in the previous reports of this institution; and it is proper to remark that some of the courts, lanes, and alleys, in many parts of the town, are at present in a filthy state. In these are situated the abodes of the poor and indigent, which are crowded, dirty, and ill-ventilated, and are the frequent sources of disease and contagion. The diffusion of typhus fever among the poor is often favoured by these physical circumstances, as well as by other causes, such as the humidity of the atmosphere, and a want of necessary clothing and nourishment."—*Carlisle Patriot* of December, as quoted in *Prov. Med. Journ.*, December 16, 1843.

ON ARSENIC IN DISEASES OF THE SKIN. BY W. BRAITHWAITE, Esq.

There is probably no substance in the Materia Medica, about which a greater discrepancy of opinion has arisen, than arsenic. By some, its uses have been highly extolled, and used too indiscriminately; by others, it has been looked upon only as a last resource, and used when every remedy has failed. This difference of opinion has probably arisen not only from the carelessness of diagnosis, and the too indiscriminate use of the remedy, but also from using the medicine at an improper stage of the affection, and in constitutions in which it ought not to have been tried. Most practitioners are now aware that arsenic may be a very improper remedy in the early period of a cutaneous affection, and a most valuable one in the later stages of the same disease. In this want of discrimination will probably be found to consist, the whole defect which renders its use so often valueless. It too often happens, that when a medical man ascertains the name and nature of the cutaneous affection, he applies a certain routine of remedies without paying sufficient attention to the stage of the disease which he is treating.—From *Braithwaite's Retrospect of Practical Medicine and Surgery*, (by Editor), for January 1844.

FORENSIC MEDICINE.

TRIAL OF MRS GILMOUR FOR THE ALLEGED POISONING OF HER HUSBAND WITH ARSENIC.—HIGH COURT OF JUSTICIARY, EDINBURGH, 12TH AND 13TH JAN. 1844.

From the circumstance of this being the first case that has occurred in this country under the Ashburton Treaty, and from the interest which it had already excited in the public mind, by the proceedings in the American courts—independently altogether of the importance of the charge itself—the greatest anxiety was manifested as to the issue. Many members of the medical profession were present.

JUDGES—Lord Justice-Clerk (Hope), Lord Moncrieff, Lord Wood.

COUNSEL FOR THE CROWN—The Lord Advocate; Charles Neaves, Esq., Advocate-depute; David Milne, Esq., Advocate-depute; James Tytler, Esq., Crown Agent.

COUNSEL FOR THE PANNEL—Thomas Maitland, Esq.; Alex. M'Neill, Esq. A. Nairn, Esq., Edinburgh; John Hart, Esq., Paisley, Agents.

The prisoner, dressed in widow's mourning, was placed at the bar.

The Lord Advocate moved that the medical witnesses be allowed to remain in court, which course, he said, was not unusual, and might be attended with benefit to the pannel.

The Lord Justice-Clerk.—I cannot assent to this proposition. I have often seen the inconvenience of such a course. Medical men mix up moral considerations with those which are strictly professional. The celebrated John Hunter regretted that he had been allowed to remain in Court in a remarkable case; and Mr Abernethy declined to give evidence in such circumstances.

The Clerk of Court then proceeded to read the indictment, the essential part of which we subjoin:—"True it is and of verity, that you the said Christian or Christina Cochran or Gilmour are guilty of the said crime (murder), actor, or art and part: in so far as, on repeated occasions, or on one or more occasions, between the 26th day of December 1842, and the 12th day of January 1843, or in the course of the said months, or of November immediately preceding, or of February immediately following, the particular occasions or occasion being to the prosecutor unknown, within or near the dwelling-house or town of Inchinnan, in the parish of Inchinnan and shire of Renfrew, then occupied by the now deceased John Gilmour, farmer, your husband, with whom you then and there resided, or within or near the dwelling-house at South Grange or West Grange, in the parish of Dunlop and shire of Ayr, then and now or lately occupied by Alexander Cochran, farmer, residing there, your father, at which you and your said husband, on or about the 2d and 3d days of January 1843, were together on a visit, or at some other place or places in the said shire to the prosecutor unknown, at which, on occasion of said visit, you and your said husband were, while on your way from town of Inchinnan aforesaid, to South or West Grange aforesaid, or on your return thence to town of Inchinnan aforesaid, you the said Christian or Christina Cochran or Gilmour did wickedly, maliciously, and feloniously, administer to, and cause to be taken by the said John Gilmour, in some articles or article of food or drink to the prosecutor unknown, or in some other manner to the prosecutor unknown, several or one or more quantities or quantity of arsenic, or other poison, to the prosecutor unknown: And the said John Gilmour having accordingly taken the said quantities or quantity of arsenic, or other poison, did immediately, or soon after taking the same, or part thereof, become seriously ill, and did suffer under violent and increased illness, and did linger in great pain until the 11th day of January 1843, or about that time, when he died in consequence of the said quantities or quantity of arsenic or other poison having been so taken by him, and was thus murdered by you, the said Christian or Christina Cochran or Gilmour: And you the said Christian or Christina Cochran or Gilmour, being conscious of your guilt in the premises, did abscond and flee from justice," &c. &c.

The indictment and the inventory of articles referred to in it having been read,

The Lord Justice-Clerk said—Christina Cochran or Gilmour, are you Guilty or Not Guilty?

The prisoner answered in a low but firm voice, "Not Guilty."

The jury were then balloted, and sworn in.

Evidence for the Crown.

Alexander Campbell, Sheriff-substitute of the County of Renfrew.—I know prisoner. A declaration, by the prisoner, of date 14th September 1843, was taken before me, and was freely and voluntarily emitted before me. The usual admonitions to persons in custody were carefully given. I was applied to, in April 1843, as to exhuming the body of John Gilmour. I granted a recommendation, for this purpose, to the adjoining Sheriff of Ayr, the burying-place being beyond my jurisdiction: it is dated 21st April 1843.

Robert Rodger, Procurator-fiscal for the county of Renfrew at Paisley.—On the 21st April 1843, I presented a petition to the Sheriff of Ayr, for a warrant to exhume the body of John Gilmour; which was done on the following day, in presence of Dr Wylie, Dr M'Kinlay, Dr M'Kechnie, and Mr Newman, the latter attending on the part of the relatives of the deceased.

Mary Paterson (examined by Lord Advocate).—I am servant to Mathew

Gilmour, farmer at town[1] of Inchinnan. I knew John Gilmour, son of Mathew Gilmour: he is now dead. He was tenant of town of Inchinnan for a short time before his death. Mr and Mrs Gilmour slept in the low part of the house. They dined in the room beside the bedroom, and took all their meals there. Mrs Gilmour prepared all the food for them. I recollect going to visit my sister in Dunlop parish, on the Monday before New Year's-day (26th Dec.) I returned on the Tuesday following (27th Dec.) I got a message from Mrs Gilmour when I was going away on the Monday. She gave me twopence to fetch arsenic with. '*Did she say where you was to get it?*' Yes; she said I was to call at a house in Paisley, and that they were to send a '*callant*' (a boy) to get the arsenic. This house was in Paisley, and on my way to Dunlop. Paisley is four miles from Inchinnan. I did not call at the house, having forgot the name of it. I got the arsenic on my way back in a druggist's (Dr Vessey's) in Paisley. '*Did you get any instructions from Mrs Gilmour what the arsenic was for, or what you were to say?*' She told me she was going to poison rats. I told Dr Vessey what I was going to do with it. He asked me who it was for. I told him it was for Mrs Gilmour. He marked on it '*arsenic, poison.*' He asked my own name, as well as that of Mrs Gilmour, and I told him. I gave the arsenic to Mrs Gilmour when I came home on Tuesday. I told her that Dr Vessey had asked who it was for, and that I told him. She said nothing when I told her this. I saw her next day doing something with the parcel. I saw her burn that parcel in the fire of the boiler, in my presence. It was like the same parcel, but I do not know if it was exactly the same. She said she was frightened she could not use it right. She said it could be of no use to her. I remember of my master being unwell. This was before New-year's-day. It was on a Thursday night (29th December) he became unwell. He was ill on Friday, and continued ill. He throwed up (vomited). He went in a gig on the Monday after the New Year (2d January), accompanied by Mrs Gilmour, to Dunlop to visit her father. He was not well that morning. They returned on Tuesday the 3d, in the afternoon. He was unwell on the Tuesday night, and continued unwell always after that. Dr M'Laws, from Renfrew, came on Friday night, the 6th of January. John Muir and William Arthur, servants at Inchinnan, went for him. Muir was a labourer about the farm. Dr M'Laws did not return after that visit. Dr M'Kechnie, senior, from Paisley, came, I think, on Sunday the 8th. He returned another time, but I do not recollect the day. His son came the day John Gilmour died, being Wednesday the 11th. Mrs Gilmour was not at home when Dr M'Laws came, or when he was sent for. She had gone away about six o'clock at night. Alexander Muir went along with her when she went away. She told after she came back that she had gone to her uncle at Paisley, to see if he could get anything to do good to her husband. She had been away from home that morning. She went away before breakfast. Breakfast is taken about seven or after it. I cannot tell what time she came back. I saw her shortly after breakfast. She was not at home when the servants were at their breakfast. She told me she was going down to Renfrew, as she had an errand there. She was wanting something to see if it would do any good to her husband. She did not tell when she came back where she had been. Her husband was at this time confined to bed. She went away another morning after this. I do not recollect what morning it was. I cannot say what time she went, nor when she came back. '*Do you remember how Mrs Gilmour was dressed on those mornings she went out?*' She had on a white bonnet, a gown, and mantle. I did not see her have a bag when she went away. She, however, had a small silk bag or reticule in her possession, but I do not know whether she took it with her on these occasions. On one of these occasions she said, I was not to tell the servants she was going from home. This was on the Friday. I remember, on the Friday, John Muir found the black bag. I did not see him find it, but I saw him having it. I saw what was in it.

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[1] In some parts of Scotland the designation of *town* is applied to a farm house with its offices, or sometimes to the offices alone.

Muir said there was poison in it. It was a small paper parcel, and there was something written upon it. Muir read it at the time. There was a *wee* (small) phial in the bag. I cannot say whether there was any thing in the phial, and I did not see whether there was any thing written on it. John Muir gave me this bag, and I gave it to Mrs Gilmour that morning. The things were in it when I gave it to her. She made no remark when I gave it to her. I saw my master vomiting on Monday the 2d, the day we kept our New Year's day. I don't remember whether this was before or after breakfast. I have seen Mrs G. carrying away what he vomited, but I cannot say what. There was one of her sisters (Mary) living in the house at the time. I think I saw Mary breakfasting in the kitchen by herself. My chief occupation was with the cows. There was no servant-woman but me. It was Mrs Gilmour who attended her husband, and nobody else.

'*Did she ever say any thing about her marriage?*' Yes. '*What did she say about it?*' She said she was not willing to take him. 'Did she say who she intended to take?' She said it was John Anderson, in Dunlop parish. She remained at farm of Inchinnan after her husband's death. She told me that her father wished her to marry John Gilmour; this she said before he became ill. After her husband's death she went to her father, in Dunlop parish. I never saw her after she went to her father's. John Gilmour was about 30 years of age. He was in good health, going about as a countryman. He was a sober man. Alexander Muir is a brother of John, and was a servant of the deceased.

Cross-examined by Mr Maitland.—I was told in Dr Vessey's that '*Arsenic, Poison*' was marked on the parcel. I am sure it was the next day I saw the packet burned—in the afternoon. It was the Friday before my master's death that the bag was found—I am confident of this. There was nothing written on the phial. Something was said of turpentine that day. I never saw anything unhappy in their conduct to each other, or which led me to believe that they were unhappy. I saw no attempt on the part of Mrs Gilmour to prevent others from getting to or seeing him. I saw John Muir in with him the night he went for the doctor. I was in in the morning, and this was the first time I had been there during his illness. Old Mathew Gilmour came on Tuesday before he died, in the morning. He saw his son immediately: he was always in the room with him till he died. Andrew Gilmour, his cousin, was also there. He was in the room at his death. I was in the room a short time before he died. Andrew Gilmour came before the marriage; and was staying at Inchinnan when John Gilmour brought his wife home; and resided chiefly there till the time of his death. He is a boy at school. I have seen arsenic used at Inchinnan, by John Gilmour himself, for killing rats. I have myself actually seen him use it. It had the appearance of a white powder. I think he kept it in his '*kist*' (chest.) The kist was in the kitchen at the time when he used it. It was taken to the bedroom where he slept, before the marriage.

Re-examined.—I only bought arsenic once at Paisley. She gave me twopence for it, and I paid this sum.

By the Lord Justice-Clerk.—John Muir went in on the Friday evening to see his master, before he went for the doctor—of his own accord, and had not been sent for. The door was open, and the doctor's horse was at it when Mrs G. returned. I did not hear any one tell her that John Muir had gone for the doctor. She went straight into her husband's room. I do not recollect whether she came out with the doctor or not.

William Tennant, formerly shopman to the late Dr Vessey in Paisley, testified to having sold the parcel of arsenic to Mary Paterson.

John Muir, Labourer.—I was last employed by the late John Gilmour on 2d January 1843. I saw him in Paisley when I was on my way to his house. I saw Mrs Gilmour with him. She joined him on the street. They had a horse and gig. They did not say where they had been. They came next day to Inchinnan. On the day I first met him, he said he was not well. He said he did not know what was the matter with him. He told me he had vomited. He was quite sober, and I knew him to be a sober man. I saw him on Wednesday (4th January.) He said he was no better. It was in the stable I saw him. His face was 'a kind of swollen ways,' and his eyes were swelled, and a kind of watering about them from throwing. Nothing of this kind struck me when I saw him in Paisley. I saw him in his room on Thursday after, as I think. I went for a doctor. This was on a Friday before the Monday. I had seen him on Friday, and he was in bed. There was nobody in the room but himself. Mrs Gilmour was not in the house. I went 'ben' of my own accord, because he was in the room alone, and I wanted to see him. It was about half-past eight when I went in. He complained of pain in his side; I cannot say whether it was the right or left side. I asked if he would like to see the doctor. He said, Yes, in the morning, if he was no better. He thought it was too late to go then. I told him I thought I would go that night. I asked him what doctor, and he said Dr M'Laws of Renfrew, which is distant about two miles. It is nearer than Paisley. I took William Arthur, the ploughman, with me. Gilmour said before I left, 'Jock, this is an unco thing.' I don't know what he meant by that. I went away for the doctor. I found the doctor in Inchinnan toll-house. He came with me to Inchinnan, betwixt 10 and 11 o'clock. Dr M'Laws bled him. Mrs Gilmour came home, just when the doctor had commenced bleeding. The doctor stopped a good while. He was to return next day; but did not come. The doctor was not quite sober. Dr M'Kechnie, senior, came on Sunday. On the day before I went for the doctor he was sitting at the kitchen fire, vomiting a brownish stuff.

I found a black bag at the corner of the boiling-house, on Friday morning, betwixt 8 and 9 o'clock. The dwelling-house and it join. I had been thrashing that morning before day-light. There was a small phial and a parcel in a paper. The parcel was tied up with thread. I did not open it. There was marked on it "*Poison.*" There was nothing on it but "poison." The phial was full. Nothing was written on it. I do not know what was in it. I gave the bag to Mary Paterson. I passed along that way when I came in to breakfast, and did not see the bag lying there. I went to buy something for Mr Gilmour on Sabbath. It was soda and tartaric acid I was to get. I bought it from Wylie, the druggist, in Renfrew, whom I have seen here to-day. Mrs Gilmour sent me for this. Mr and Mrs Gilmour told me the name of the thing. I brought it back and gave it to her. I heard him retching frequently when I was in the kitchen.

Cross-examined.—I cannot say on what day Gilmour began to be constantly confined to bed. He sent for me on Monday. Mrs Gilmour told me to go in to him. He was going about when I was there. I was alone with him a few minutes. He told me to give him a drink of porter or ale that was in a bottle. He told me to heat the bottom of it at the fire. I gave him a tumbler of it. I saw him the night he died, but not in the interval.

By the Lord Justice-Clerk.—"*What led you on Friday evening to ask your master if he would like to see a doctor?*" It was the finding of the bag. I did not mention to my master that I had found the bag.

Mathew Gilmour, father of the late John Gilmour.—I am a farmer at town of Inchinnan. I went there on Whitsunday after my son's death. He was married at Martinmas, and died on the 11th January. He was in good health when he married. I heard from him when he was at Dunlop, at New-Year's-day, he had been unwell. He said he was all swelled about the chest, and threw up a good deal. He complained of pain in his stomach. His face was all swelled. He came to our house on Tuesday, and then proceeded home. Mrs Gilmour was along with him. He was about two hours in our house on Tuesday: he came betwixt 10 and 11 o'clock: he had a fit of vomiting while he was there. I saw him next on the Saturday after this. I heard he was worse, and went to Inchinnan in consequence. A son of mine, Mathew, came to me on Thursday, and said he was worse. It was betwixt 10 and 11 o'clock on Saturday I came. John was in bed. He was still complaining of throwing up, and pain in the breast and stomach, and constant thirst. Mrs Gilmour was sometimes attending him; and when she was not, there was nobody attended him but me. Dr M'Laws had seen him the night before. John wished me to remain. I thought they would be alarmed at home if I did not return at night, so I had left word, that if he got no better I was to be told on Monday. I returned about 10 o'clock on Tuesday forenoon. He was then still worse. He complained of pain and thirst very much, and was vomiting frequently. His wife sometimes attended him. I attended him when she did not. I understood Dr M'Kechnie had been with him on the Sunday. He died on Wednesday betwixt 6 and 7. He was bled on Wednesday by young Dr M'Kechnie. I was in the room at the time of his death. I was pretty constantly in the room after I arrived. I might be out for a few minutes, but not more. He was getting some soda dissolved in two tumblers, and they effervesced. These powders were laid down on the table in two papers. The powders were not divided, but a portion of both was taken—a part of a tea-spoonful of each. I mixed them when Mrs Gilmour was not there; she mixed them when I was not there. I did not go to bed at all on the Tuesday night. I tasted one of these drinks once: it was an acid drink. He had a severe fit about an hour or so before death. He came out of the bed and sat on a chair, but tumbled off the chair, and I got him into bed again. There was a nephew of mine, Andrew Gilmour, about the house. He is now fourteen past. He was in the room. I do not recollect of John Gilmour saying anything about opening him, or about anything he had got. I am a little dull of hearing for this number of years. I was sometimes at the door. I was at the funeral on Monday the 16th. There was a mortsafe put over the grave. I fixed the day of the funeral. Alexander Wylie, my brother-in-law, kept the key of the mortsafe. He was buried in the church-yard of Dunlop. The body was removed to Dunlop on the day of the funeral. I was not present when it was taken up again.

Andrew Gilmour, nephew of the last witness.—I do not know correctly how old I am. I was about the house when John Gilmour died. I was in the room at the time. I heard him say, on the day he died, that he wished to be opened. Sandy Muir and deceased's father were in the room at the time. He said, 'Oh! if you have given me anything, tell me before I die." I don't know who he said this to. I don't mind if Mrs Gilmour was in the room.

Cross-examined.—It was in the evening, or some time of the night he died, that he used the expression above stated. I don't mind whether he spoke about the opening, or telling him if they had given him anything, was first said. I don't recollect his saying anything as to them being good to his widow after his death.

Alexander Muir, servant to the late John Gilmour.—I remember Dr M'Laws seeing him, but do not recollect the night. On that day, in the evening, I went to Paisley with Mrs Gilmour. We went to her uncle, Robert Robertson. I see Mrs Gilmour at the bar. I cannot say what time of night, but it was after the horses had been suppered. We came back betwixt eleven and twelve. I understood from her her object: she said John Gilmour would not hear tell of a doctor coming, and as her uncle had had a heap of trouble, he would have some skill, and she wished he would come and see him. She asked me to accompany her. I do not know what passed at Mr Robertson's. I saw him. Dr M'Laws was in the house when we returned. Another doctor came. I do not mind the day. I was in the room the day he died. His father, Mathew Gilmour was there, Mrs Gilmour, and the boy Andrew Gilmour. I was there shortly before he died. I heard him express a wish to be opened. I heard him say, " Oh that woman! if you have given me anything!" Said nothing about " telling him." He said nothing about " before I die." I mind of Mrs Gilmour's sister going back and forward. I cannot say whether Mrs Gilmour was in or not. I cannot say how long he lived after this. He was wandering a good deal, and speaking loud sometimes—sometimes low.

Cross-examined.—I do not recollect that I heard John Gilmour say anything about being kind to his widow. I was in his service some time before his wife came home. I have seen him have arsenic different times for poisoning rats; and assisted him in laying down the arsenic.

By the Lord Justice-Clerk.—It was only before his wife came home that I saw him using arsenic for poisoning the rats. The fact that he had arsenic for poisoning rats, was well known in the house. There was no mystery about the the use of the arsenic. He said he got it from one Mr Paton, a smith at Broomlands, near Inchinnan. It was used only in the offices, which are part of the same range of buildings with the house.

Robert Robertson, Paisley.—I am an uncle of Mrs Gilmour. I recollect of her calling on me on a Friday evening early in January, before Mr Gilmour died. I had not seen her for three or four years before. She remained a considerable time with me. I was in the parlour, and she was there. The man was shown into the kitchen. When she was ushered in, I was writing. Mrs Robertson mentioned her name. I did not recognise her at the very first. I said she was not far from us now. She said it was against her will that she was there. She said that she would rather have preferred one Anderson. She said her husband was unwell, and had been so since from Thursday-eight-days. I asked her if any doctor had seen him. She said no. She said the family of Gilmours were averse to seeing doctors. I proposed to send Dr M'Kechhie. She wished me to come down and see Mr Gilmour before I sent Dr M'Kechnie, and to see what he, Mr Gilmour, would say. I went down on the Saturday. I found him in bed, vomiting green and yellow matter; it had the appearance of bile. He complained of a pain in the right side. He told me that Dr M'Laws had been there on the previous evening, and had bled him. I proposed to send Dr M'Kechnie to him. He said that Dr M'Laws had been tipsy. He said he would rather not see Dr M'Kechnie that day, I having proposed to send him on my return. I understood that Mrs Gilmour said she would send up if he was worse. He said nothing more about doctors after this.

A message was sent next morning by a servant man, expressing a wish to send a doctor, and I sent Dr M'Kechnie; this would be about 9 o'clock on Sunday morning. I was requested to go down also. The doctor arrived on Sunday when I was there. He ordered a blister. Gilmour said very little while the doctor was there. I slept there all Sunday night, and left on Monday a little after 9. I rose a little after 3. Mrs Gilmour had been attending him, and I relieved her. My reason for remaining was to apply the blister. Mr and Mrs Gilmour told me that they had never seen a blister used—put on, or taken off. Mr Gilmour said he was a great deal better—greatly relieved from the blister. I did not see him again in life. I had conversation with Mrs Gilmour on Saturday. She recurred to the subject of her marriage, in something of the former strain; she said it had been against her mind in taking Gilmour. I cannot say how this conversation came on. Nothing particular led to it. She did not speak in a bitter tone—she seemed grieved. She recurred to the same subject of her own accord on the Sunday evening. I went down to Inchinnan on Thursday after the death. She did not recur to the subject then, so far as I recollect. She came and remained a night in my house, a week after the funeral; she recurred to the subject in the same way, and said she was disappointed in not getting another. I visited her at Inchinnan, before she went to her father's. She mentioned having received a letter from Anderson. I asked if she had it, and she said no—she had destroyed it.

Cross-examined.—I thought she was kind and attentive to her husband. She was holding his head when he was vomiting. I could not say there was want of attention. She was a good deal in the kitchen. The servant girl was in the kitchen. She came "*ben*" to give him anything he wanted.

By the Lord Justice-Clerk.—I cannot recollect what led her to speak of her marriage. I cannot say I was struck with it, though I was not prepared, in any way, for it. She did not complain of any unkindness. I could not say that her reason was unsettled, or her faculties impaired. I mentioned to her on Friday evening, that, on marriage, it was voluntary on her part in saying that she would be an obedient and affectionate wife; and that she was therefore bound by the laws of God and man to act accordingly. I mentioned, that many persons had not got the one they liked best; but if they studied each other's tempers, they would come in time to like one another. She received my remarks pleasantly and reasonably. There was no excitement about her when I saw her attending in the house, or after G's. death nothing peculiar. She wept when talking of her marriage. It was my impression that she wanted to take the doctor there, but that she wanted to consult her husband before doing so. I do not recollect if there was any other person in the room with Mr and Mrs Gilmour when it was said a message would be sent to me. I had not said on Saturday that I would return on Sunday, unless she and Gilmour let me know. I supposed it was her act the sending for me. I do not know which of the man-servants came. Gilmour never made any complaint to me against his wife. I saw nothing, except what I have said, that indicated any alienation or coolness betwixt them.

John M'Laws, surgeon in Renfrew.—I was asked to see John Gilmour on the 6th or 7th January, betwixt 12 and 1, A.M. I found him in bed. He was complaining of pain in his side, fever, and thirst. I bled him. I thought the complaint inflammatory. I did not know anything of his vomiting, and was not told anything about it. I was to call back, but I was called away to a different case. On Sunday, I heard Dr M'Kechnie was called in, and I did not go back.

Cross-examined.—He told me that he thought the origin of his complaint was cold. I ordered his side to be rubbed with turpentine. I thought that the person I spoke to was Mrs Gilmour, but it turned out to be the servant-maid.

Alexander Wylie, druggist in Renfrew.—I sell arsenic and other medicines. I always ask questions at people that buy arsenic. I have kept record of my sales of arsenic since 1832. That is my book. It is limited to the matter of arsenic. I recollect of a person coming on the seventh January to buy arsenic. I remember perfectly it was on a Saturday. It would be a little past eight in the morning. It was a female who came to me, respectably dressed. The door was stiff to open. She opened it before I came. She asked me if I sold poison or arsenic. She said she wanted it for killing rats in the field. I asked her who it was for. She said it was for a John Ferguson. I asked her the name of the farm. She said she had forgot the name of the farm. I named all the farms in my recollection in the neighbourhood. She did not fix on any of them. She said something about its not being long since she came to the place, as the reason why she had forgot. I was not altogether satisfied with this, and called in James Smith, who is an old inhabitant of the place. I asked him if he knew a John Ferguson, a farmer in the neighbourhood. Naming all the farms in the neighbourhood, he knew none belonging to a Ferguson. She said the place was up by Paisley, in that direction. I asked her own name, and she told me her name was Robertson. I sold the arsenic to her, twopence worth. I always put up arsenic in two papers, one within another. I marked the words "*Poison, Arsenic,*" both words on the paper. I gave it to her, and she left my shop. I made an entry, before she got the arsenic into her hand. "January 7, 1843. For John Ferguson per Miss Robertson, for killing rats in the field. James Smith, witness,"—quantity is not mentioned. I made the whole entry before she left the shop. I recollect of a person coming the day following to purchase something from me. It was a man wanting tartaric acid and super-carbonate of soda. He told me it was for Mr Gilmour, Inchinnan. I gave it to him, and some magnesia also. The man said that Mr Gilmour had been seized with a violent vomiting. I did not mention the quantities to be used. I thought every body would know that. I am perfectly certain there could be no arsenic or poison of any kind in what I sold on Sunday. I saw the thing done up and delivered myself. A person was afterwards shown to me, to ascertain whether she was the same who bought the arsenic. I say most distinctly that it was the prisoner.

By Mr A. M'Neill.—I recollect when I sold the arsenic to the pannel, I said to her, Don't take it yourself or give it to any one else, for here is James Smith who will be a witness against you. Mrs Wylie saw the person who bought the arsenic.

James Smith, grocer in Renfrew.—It was the prisoner who bought the arsenic.

Mrs Wylie—Corroborated the evidence of the two preceding witnesses, and identified the prisoner.

John Anderson.—I was acquainted with Mrs Gilmour before her marriage.

I received a letter from her in January, soon after her husband's death. I have not preserved it. I had no letters from her during her marriage. I had some after her engagement with Mr Gilmour. I am aware that she went away some time after her husband's death. I received a letter from Liverpool, in her name, and like her hand-writing. I thought it was from her. I think the date was 28th April. Her brother asked me if I would give it to him, to let his mother read. He took it away, and I never saw it again. I did not tell him to bring it back; but I said he might not destroy it. '*Was there anything in this letter on the subject of her husband's death?*'

The pannel's counsel objected to the question. The Lord Justice-Clerk cautioned the witness as to answering any question on the subject. He was to consider the question now to be put by the Lord Advocate, not as put to the witness, but as put for his Lordship's consideration.

The Lord Advocate repeated the question.—The Lord Justice-Clerk—Don't answer that.

The objection was afterwards withdrawn by the prisoner's counsel.

Witness.—There was something in this letter about poison. She said she would confess she had bought arsenic to take herself, but did not admit she had administered it to John Gilmour. The purport was, that she would have stopped till all was settled about Gilmour's death, and complained that she had been sent away. The words "*did not admit*" were in the letter. She said she was very sorry to be sent away from all her friends.

Cross-examined.—I had been acquainted with Mrs Gilmour more intimately for three or four years. She was brought up in her father's family up to the time of her marriage. She was of a very gentle, mild, fine disposition,—not a person violent in any way.

By the Court.—It was to Thomas Cochran, her brother, I gave the letter.

Thomas Cochran.—I am a brother of Mrs Gilmour. She went to America last April. I understood John Anderson had got a letter from her. I asked for it from him, and got it. I can't say the date of it. I gave it to my father or mother. I did not get it back. I read it—glanced over it. I saw in it she was sorry she was leaving her friends.

Alexander Cochran, father to the pannel.—I recollect of Mrs Gilmour going away in April last. After she was away, I recollect of a letter that was received by John Anderson. I got it and destroyed it. I read it. I could not say a great deal of what was in it. She mentioned she did not wish to go away. She said when she came back it would be a happy meeting. I recollect nothing of arsenic in it. I advised her to go away.

Cross-examined.—She was not very willing to go. I made arrangements for sending her off. I employed my brother Robert to make the arrangements with a man of the name of Simpson to convey her away. I am sure she did not know she was going to America when she left. I heard rumours, after the death of John Gilmour, of his having been poisoned; and I had communication with my daughter on the subject, on which she proposed that I should go down to the authorities, and have the body exhumed. I acted on this suggestion. I got old Mr Gilmour to go along with me, and we went to Paisley, and went to the doctors; and they gave us every satisfaction. The doctors were M'Kechnie and son. I went to the Fiscal. He was not at home. Mr M'Innes, the partner of Mr Rodger, the Fiscal, told us to go home and wait for eight or ten days. He thought it was all nonsense, and I heard nothing more till the body was raised. It was not raised on any application of mine.

Re-examined.—I do not remember the day she went away. There was no arrangement for some time as to her going to America.

By the Lord Justice-Clerk.—I think Mrs Gilmour was away before the body was actually taken up. I think she was then in Fenwick parish. I don't know the exact date when the body was raised.

George M'Kay.—I was superintendent of Renfrewshire rural police. In the month of April last, I heard rumours as to the death of John Gilmour. These led me to make farther inquiries. I got a warrant about the 8th of May to apprehend Mrs Gilmour. I made a search for her in Liverpool. I got information there which led me to believe she had gone to America. I went to New York; I arrived there before the vessel she was in. I boarded the vessel as she approached New York. I found the pannel on board, under the name of Mrs Spiers. I told her she was to go with me to Great Britain, and she immediately admitted her name was Mrs Gilmour. After considerable trouble, I got a warrant to remove her. I arrived here on the 12th of September.

Archibald M'Kean, wright at Inchinnan, the undertaker, identified the body and coffin at the exhumation.

Dr M'Kechnie, doctor of medicine in Paisley.—I went to visit Gilmour at Inchinnan on Sunday, 8th January 1843. I was sent for by Robert Robertson. It was one o'clock when I got there. John Gilmour was in bed. I found him very feverish. I understood that he had been vomiting. I was told that Dr M'Laws had seen him on Friday, and had bled him. I prescribed a calomel powder for him, considering his complaint bilious, being told that he had vomited a quantity of bile. I ordered a blister. I saw him next day at twelve o'clock. I found him better. I prescribed effervescing powders and blue pills. I had ordered effervescing powders on Friday, and showed his wife and Mr Robertson the proportions of the powders. The substances were tartaric acid and super-carbonate of soda. I never saw him after Monday, as my son went in my stead. On Sunday, I expressed a wish to see the stuff he was vomiting. I asked to see his evacuations, both urinary and alvine, and told Mrs Gilmour to keep them till next day. I asked her on Monday for them, (as she was the only person whom I saw,) and she said there was so little, she did not think it worth while keeping them. There had been one alvine evacuation just before I arrived, which was below the bed. I did not see what he had vomited. I asked the patient if he had vomited, and he said he had vomited less. I was present when the body was exhumed on 22d April. Dr Wylie and Dr M'Kinlay were also there. I saw the body then. I saw a dissection made of part of it. From the symptoms I saw, and from what I heard at the time, I could form no opinion of any thing injurious having been taken or given. From the inspection of the internal parts of the body which I made, I formed the opinion, that arsenic had caused the inflammation which I saw. The symptoms I observed during life, were not inconsistent with that opinion. From the appearances on dissection, I should think death was caused chiefly by one application of arsenic, and that one recently before death. It is possible that a dose may have been given before I saw him; but I don't think the dose which occasioned death was given before I saw him. I remained a long time with him, but he vomited none when I was there. He had very great thirst when I saw him. There was no swelling of his face and eyes. His pulse was high,—110 to 112 the first day. It was lower the next day,—down to 94.

Cross-examined.—Mrs Gilmour behaved very coolly and collectedly. I saw no excitement. She behaved herself in every respect most properly.

William M'Kechnie.—I visited John Gilmour the day he died. He was in a very low state. He complained of pain in the upper part of the abdomen, and in the throat. His father told me that he had been vomiting. I bled him, partly on account of a pain in the abdomen, partly on account of head symptoms. I was told he had been wandering, but did not observe this. He was disinclined to answer questions, but answered them correctly. He was not comatose, but sluggish and drowsy.

Cross-examined.—I had been sent for on that morning.

Dr Wylie, doctor of medicine in Paisley.—I remember, in April last, being present at the exhuming of a body. I assisted Dr M'Kinlay in making a dissection, and made the following report:—

First Report by Drs Wylie and M'Kinlay.—"*Paisley*, 22d *April* 1843. By direction of the Procurator-fiscal of Renfrewshire, acting under a warrant of the Sheriff, we, the undersigned, proceeded to Dunlop in Ayrshire, to inspect the body of the late Mr John Gilmour, farmer, who died at Inchinnan on the 11th, and was buried at Dunlop on the 16th day of January last. There were present at the examination, Dr Robert M'Kechnie from Paisley, and also Mr Newman, surgeon, from Stewarton—the latter by desire of deceased's relations.

he notes taken on the occasion were read in presence of these gentlemen, and reed to by them as correct.

"The body was considerably decayed, and the face could not be recognised; but the grave-clothes were identified before us by Mr Archibald M'Kean, wright, Inchinnan. The skin was green in many places over the chest and abdomen: the muscular system was getting into a gelatinous state; but the fibres were still quite distinct: the right side was more lurid than the left. The chest and abdomen having been laid open, the intestines exhibited a blush all over the external surface. At a part where the ileum was in contact with the colon, there was more of redness than elsewhere; and at that place there was an effusion of lymph, which limited the two surfaces by adhesion. On the inferior aspect of the left side of the transverse arch of the colon, and on the upper surface of that part of the ileum next to it, there were stains of a bright yellow colour, in large spots and streaks along these bowels: these stains and streaks were particularly large and bright also on the right half of the large curvature of the colon, where they are included within the cavity of the winslow. The great end of the stomach was very red, but in some places was of a bright yellow colour. The upper surface of the liver was of a dark colour, excepting at the edge of the right lobe, where it was of the usual appearance; its under surface was yellower than usual. The lungs were normal, and without disease or morbid adhesions. The heart was normal. The alimentary canal was next removed from the top of the œsophagus to the anus, for the purpose of examining their internal surface, and collecting their contents. The internal surface of the œsophagus was very red. On opening the stomach, its internal surface was found thinly sprinkled with small yellow particles, some of which were very bright, some were darker, but no gritty particles were felt. There were also extensive patches and streaks, of a bright yellow colour, on the anterior side of the great arch, and stretching towards the pylorus. The posterior or dorsal side was very red, and its substance thickened; indeed, the whole of its internal surface was either red or yellow; the latter colour resembled orpiment. The duodenum was red, externally and internally. The valvular folds of the inner coats of the upper half of the jejunum were enlarged and reddened. The rest of the jejunum and ileum were red, both externally and internally, in many places; and throughout the whole alimentary canal, the redness, externally and internally, corresponded in locality. No fæculent matter was found in the small intestines; but they contained a red jelly-like mucous matter, in all those places where their internal coat was red. The ascending part, and the transverse arch of the colon were reddened and thickened. There was a yellow patch on the left side of the arch and top of the descending colon. The rectum was thickened, and was very red internally.

"The stomach contained only about one and a half ounce of reddish coloured fluid, which was preserved. The contents of the intestines, similar in appearance, but thicker, were also preserved. The following parts were all preserved for future examination and experimental analysis—namely, the greater part of the œsophagus and the stomach; the duodenum, with a portion of the pancreas adhering; the jejunum; the ileum; the colon and rectum; a piece of the right and of the left lobe of the liver; the spleen, and the right kidney.

"Having carefully considered the above, we are of opinion that the aforesaid John Gilmour died from the effects of an acrid poison, which produced the inflammation of the stomach and bowels above-mentioned; and that from the yellow particles on the lining of the stomach, and the yellow patches and streaks in the substance of the stomach and bowels, we suspect that acrid poison to have been arsenic. All which we humbly certify on soul and conscience, at Paisley, this 22d day of April 1843 years.

(Signed) "GEORGE WYLIE, M.D.
"D. M'KINLAY, M.D."

I carefully preserved certain parts of the body. I kept them. I despatched one part to the Crown-agent. I gave it to the Fiscal. I afterwards made analytical experiments; and made out a report with Dr M'Kinlay. I had what was preserved under lock and key. I made a written report on the 16th May.

Second Report by Drs Wylie and M'Kinlay.—"Paisley, 16th May 1843. We, the undersigned, proceeded to make a chemical investigation of the following named parts of the body of the late Mr John Gilmour, and the contents thereof, all as mentioned in the report of a post-mortem examination, made at Dunlop, on the 22d day of April last, and which were then preserved for future examination; namely, a portion of the contents of, and a piece of the stomach; a part of the ileum, and some of its contents; and, lastly, a piece of the rectum. Each of them was separately subjected to the same procedure, viz. was boiled for half an hour in some distilled water, to which was added a little pure potassa: the liquor was cooled and filtered. Strong distilled vinegar was then added to neutralize the potassa and throw the casein. The liquor was again filtered, when it became perfectly transparent and nearly colourless. Into a few drops of this liquor the ammoniaco-nitrate of silver test was dropped, when it showed a rich lemon-yellow precipitate. Into another little portion, the ammoniaco-sulphate of copper test was dropped, when it gave a green precipitate. A third portion of the fluid was treated with sulphuretted hydrogen gas, when it assumed a rich orange, and on standing a few days yielded a yellow precipitate. A quantity of the liquor was subjected to Marsh's apparatus—the materials to be used having been previously tested and found pure, and the apparatus being all new. Some of the gas produced was burned, when it gave a dense smoke, having the odour of garlic. The little flame was introduced into a small glass tube, and some of the smoke then condensed at the part of the tube near the flame; it became covered with a metallic-looking crust, and in the cooler part of the tube it was covered with a white crystalline matter. Both of these were readily volatilized by the heat of a flame, and condensed again in a cooler part of the tube. It was thus by heat driven from place to place. A considerable quantity of the gas was next burned in a small bottle, with free access of atmospheric air. The interior of the bottle became gradually encrusted with a white shining crystalline matter, which was afterwards dissolved in distilled water. Some of the solution was tried with the ammoniaco-nitrate of silver test, when it gave a splendid rich yellow precipitate. Another portion was tried with the ammoniaco-sulphate of copper test, when it gave a bright green precipitate. Both these precipitates were redissolved by the addition of an access of nitric acid or of ammoniaco. Another portion of the above liquor was exposed to a stream of sulphuretted hydrogen gas, when it became of a bright orange colour, and afterwards deposited an orange precipitate. Having carefully considered the above analysis, we are of opinion that their results plainly indicate the presence of arsenic in the contents and substance of the stomach and bowels of the aforesaid Mr John Gilmour, and that the said arsenic was the cause of his death. The above we hereby certify, on soul and conscience, at Paisley, the 16th day of May 1843 years. (Signed) "GEORGE WYLIE, M.D.
"D. M'KINLAY, M.D."

My original suspicion was converted into conviction by this analysis. I repeated the experiments frequently. The tests were of various kinds, and all concurred in producing something similar to white oxide of arsenic. I did not try the liver. The yellow substance produced by sulphuretted hydrogen was a known form of arsenic, known as orpiment. The yellow patches seen on dissection bear a strong resemblance to this substance. In the course of decomposition, the intestines themselves would produce sulphuretted hydrogen, and this would yield the sulphuret of arsenic. I made an inventory of the articles I got, and put them into a box, for transmission to the Crown-agent. I sealed up all the articles I sent, labelled and signed them. (*Articles handed to witness.*) This is the inventory. This is the bottle and label I sent. It contained a half of the contents of the stomach. Some distilled water had been added to it. I also sent an earthen jar, which I now identify as one of the articles sent to the Crown-agent. I see my seal. There are four small labels, but there are some labels amissing. I exhibit a piece of the left lobe of liver; piece of right lobe of ditto; piece of right kidney; piece of the spleen; œsophagus, and posterior half of the stomach; half of the duodenum, and a small bit of pancreas; half of jejunum, and part of the ileum.

By the Court.—The substance in the bowels and stomach had not produced ulceration or gangrene, but simply inflammation.

Dr M^{c}Kinlay.—I am a doctor of medicine in Paisley. I went with Dr Wylie to Dunlop, when the body was exhumed. (In other respects corroborated preceding witness.) I was aware, before this examination, that arsenic had been found in the liver, but rarely.

Dr Christison.—I am Professor of Materia Medica in the University of Edinburgh. Was formerly Professor of Medical Jurisprudence. I have written on the subject of poisons, and I am conversant with the subject. I received a number of articles from the Crown-agent in May last, with an inventory. The seals are entire,—the tape was cut by me. I see the labels, and the subjects of investigation are sealed by me. I made a chemical analysis, and drew up a report. I carefully preserved what was sent to me.

Report by Professor Christison.—"*Edinburgh, 20th Nov.* 1843.—I certify that in the month of May last, I received, from the Crown-agent, a box containing various articles, described as having been taken from the body of John Gilmour. The articles were all labelled and duly sealed; the seals were entire; and the articles corresponded with an inventory sent to me at the same time.

"I first examined a fluid in a bottle, described as part of the contents of the stomach, and amounting to about three ounces. On heating it with muriatic acid and a slip of copper ribbon, a coating was found on the copper which presented the external character of metallic arsenic; and when the coated copper was heated in a glass tube, a white sublimate was obtained, which possessed all the most characteristic of the properties peculiar to oxide of arsenic, and which in fact was that substance in the same state in which it is usually administered as a poison.

The next article examined was described on the label as a portion of the liver of John Gilmour. It was boiled for some time in water containing a little muriatic acid; and the solution was subjected to the same process as the contents of the stomach, and with results precisely similar. The only difference was that the arsenic, eventually obtained in the state of oxide, was somewhat larger in quantity.

"I also examined, in the next place, the stomach itself. It was treated exactly in the same manner as the liver, except that a portion only of the solution was employed for the copper test: the result was identical with those obtained in the instances of the contents of the stomach and the substance of the liver; arsenic being clearly detected. The remainder of the solution was then subjected to what is commonly called Marsh's process, improved according to the method recently recommended by a committee of the French Institute, and metallic arsenic was thus obtained, with highly characteristic properties. Farther, by means of a contrivance added to the apparatus of Marsh, I collected also a quantity of arsenic in the form of oxide, or in the state in which that poison is administered; and the substance thus obtained was subjected to all the most appropriate tests, physical as well as chemical. By all these various methods, a uniform result was obtained, indicating invariably the existence of arsenic in the textures of the stomach.

"Having thus detected arsenic unequivocally in the contents of the stomach, in the stomach itself, and in the liver, it did not seem necessary to examine any other article among those sent at the same time, which simply consisted of various fragments of the intestinal canal, and of the different glandular tissues in the abdomen.

(Signed) "R. CHRISTISON, M.D., &c."

This is a true report. I applied Reinsch's process.[1] The symptoms of poisoning by arsenic are very various. Vomiting is one of the most frequent. Even that, however, is often absent. Pain in the region of the stomach is a very common symptom. I should, from the facts stated in the report of the dissection, form the opinion that arsenic had been introduced before death, and was the cause of it. I would be confirmed in that opinion if there had been heat and thirst, and the party dying under these symptoms. I saw, in the portion of the stomach sent to me, the peculiar yellowness produced by arsenic. The stomach was almost perfectly preserved. The intestines remain more entire after death where arsenic has been used. If the death occurred in January, I would attribute the preservation of the intestines to the effect of the arsenic. It is a general effect of arsenic to preserve the intestines and stomach. If the symptoms were continuous, I would infer that the arsenic produced death, though the illness had been prolonged several days. From all the statements in the reports, I would say one single dose might produce the protracted illness, but was not so likely to do so, as repeated doses.

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[1] Described in this Journal for January 1843, p. 81; and commented on by Dr Christison in the September Number, p. 774.

By the Court.—This is I believe the second instance in this country in which arsenic has been found in the liver. It has been repeatedly found in the liver, in France. It is no constituent part of the human body, and is not formed in it. It was once alleged that it was, but that has been disproved. The individual who first promulgated this theory, only argues now that small quantities are found in the bones; but in three several experiments before the Academy of Paris, he was unable to show it. Arsenic could only come into the liver by absorption.

The Clerk of Court then read the

DECLARATION OF THE PANNEL.

At Paisley, the 14th day of September 1843 years, in presence of Alexander Campbell, Esq., Sheriff-substitute of the county of Renfrew,—compeared Christian or Christina Cochran, a prisoner, who, being examined, declares as follows, viz., I am twenty-three years of age, and I was married to John Gilmour, farmer in town of Inchinnan, now deceased, soon after Dunlop fair, which I think was held shortly after Martinmas last, and I removed on my marriage to my husband's residence, and lived with him there till his death, which took place I think about five weeks after our marriage, and I forget the dates both of the marriage and his decease. I went back to my father's house, in the parish of Dunlop, some time after my husband's decease, and, after staying some weeks there, I was sent away to Liverpool, and thence I sailed for New York; and on the arrival there of the vessel in which I was a passenger, I was apprehended, and, after being detained as a prisoner for a considerable time in New York, I was taken away from that place as a prisoner, in the charge of Mr George Mackay, and under his charge I arrived at Paisley yesterday morning. I forget at what time it was that I left my father's house for Liverpool as aforesaid, farther than that it was in spring last. When I was sent away, I was not informed where I was to go, but first one man accompanied me on my journey till we came to a small house in a country place, where I remained two days or so, and then another man came and accompanied me to a certain other place, and then a third met and accompanied me to Liverpool, and from Liverpool to New York. The name of the last man was John Speirs, at least that was the name he gave me, and I had never seen him before: but as to the two other men who accompanied me, I don't know even their names, nor do I remember the names of the places at which we stopped. The first part of the journey was on foot till we came to the small house, when the first man left me, and from that house the second man took me in a gig to the place where I was met by Spiers, and then we travelled, first by coach, and after that by railway, to Liverpool. I received no information as to the cause of my leaving the country except from my sister Elizabeth; and, on my inquiring if it was on account of the reports that had been going about as to my husband's death being blamed on me, she said it was, and on my telling her that my going away would cause people to think I was guilty, she told me I would be back in a few days, and that people would say that I could not stand such reports; and my father obliged me to go away without even speaking to my mother. I think it was on a Friday or a Saturday that I went away on my said journey, and I had heard before going away that my husband's body was about to be raised. I cannot remember how long my husband was ill of the disorder of which he died. My said husband and I went from his house at town of Inchinnan to pay a visit to my father at Dunlop, and we returned the day after, having travelled in a gig. My husband had been complaining a little immediately before this visit, and on the day preceding had complained of a severe headach, and of pain in his breast, and said he thought it was his heart, but I don't recollect of his vomiting any; and on the morning on which we set out for Dunlop he was much better, but he became much worse again during the latter part of our journey home, and after getting home he continued worse, and vomited, as I think, once that night. The visit to my father was at New-Year's-day time. My husband continued ill till he died. He continued to complain of headach until his death, but for some time previous to his death he complained of his throat, and said the pain had left his breast. He continued, however, to vomit more or less every day after our return home until he died, excepting for a short period before death. He never intimated to me in any way that I was the cause of his ailment; but he said shortly before his death to me that I had broken his heart. I suppose that he said this, because I had told him often before that he had broken mine, and that I could not be to him as a wife ought to be, and the reason of this was well known to him, being that I had been in a manner forced to marry him. While my husband was confined to bed under said illness, I was the only female who attended him. There was one female servant in the house, and only one, and her name was Mary; but first my sister Mary came and staid a few days, and then my sister Margaret came when she went away, and Margaret staid with me until after my husband's death. I acknowledge that one morning in the course of my husband's illness, I walked to the town of Renfrew, and there bought from one Wylie, a druggist, some arsenic, for which I paid him some few halfpence, I do not remember how many. He questioned me before he gave it, as to what was my name, and what I was going to do with it, and wanted me to write down my name, but I don't think he asked me, or at least I do not recollect of his asking me where I staid. I told him my name was Robertson, and I think I said Margaret Robertson, but I am not sure of that, and told him it was to poison rats. I took home with me the arsenic, which was wrapped in a paper, and had the word "arsenic, poison," on the back of paper, and I kept it in my pocket among some halfpence till the string came off the paper, and a little was spilt among the halfpence, which I discovered by finding some of the halfpence white, when I took them out; but this I did not discover until after I had returned to my father's house, after my husband's death. The paper of arsenic had never been opened up by me from the time I bought it. I first of all put the arsenic, when I got it from the druggist, into a small bag that I carried, and which was made of black silk, or black velvet, I cannot remember which, and when I reached home I took it out of the bag and put into my pocket, where it remained as aforesaid, unopened. I rather think that I had dropped the bag before getting into the house with it, and that it was brought to me by one of the servants. When I had gone back to my father's house, after my husband's death, I missed my pocket, which I used to lay at my bed-head. It was on the morning after I returned to my father's house, that I missed it, and I found after that, that my mother had got it, for she questioned me about the paper and its contents, and what I was going to do with it. I at first was not disposed to tell her what it was, but she told me herself that it was arsenic, and I told her I had got it because they were all tired of me, and would not let me have peace, nor let me sit beside them, as if they thought I was not good enough, nor let me remain by myself, as if that was avoiding their company. I did not tell my mother when or where I had bought it. The truth was, I was made unhappy before I quitted my father's house, on my marriage, and I continued to be so after my marriage, and I had procured the arsenic, thinking that I would put an end to myself with it. I farther declare, that previous to my purchasing the said arsenic at Renfrew, I had procured another paper of it, which my servant Mary had bought at my desire, and I think she bought it in Paisley, but whether this was before or after the commencement of my husband's illness I do not remember. Mary told me that the man from

whom she got it, said that he must know for whom it was got, and for what purpose, and that she had told him. I had said to her that it was intended for rats, but after I had heard from her what the druggist had said, and what she said about the danger of it, I burned it before her face in the furnace fire of the boiling-house, and this I did upon the same morning that she bought it to me. I am sure that it was the same morning that she had bought it to me. I am sure that it was the same parcel that she brought to me that I had so burned, and I had never used any part of it in any way, nor even opened up the parcel at all. My feeling and intention were the same when I bade Mary buy this arsenic as when I bought the subsequent parcel myself, but I was frightened with what she told me about its sudden effects in producing death at once, and I therefore destroyed it. And the fact was, also, that attempts had been making to catch a rat that came to the jawhole of the house, and it was for that reason I mentioned to her that it was for the rats. I never gave to my husband, either during his illness, or immediately before it, anything either of meat or drink, but what he expressly asked for; and I never gave him arsenic or any other poisonous thing. My husband complained very much of thirst during his illness. My husband had many a time declined to let a surgeon be sent for as I had proposed to him during his illness; and I went one evening, accompanied by one of my servants, and called on Robert Robertson, my uncle by the mother's side, who lives near Paisley, to consult him about getting medical advice, and Robertson proposed coming to see my husband, and bringing Dr M'Kechnie of Paisley along with him. When I got home after this visit to my uncle, I found that Dr M'Laws, from Renfrew, had visited my husband during my absence. Dr M'Kechnie, from Paisley, was afterwards called in to attend my husband. When my husband and I were returning from our New-Year's-day visit to my father, we called at Mr Hendry the druggist's shop in Paisley, or at least it was a druggist's shop, near the cross of Paisley, and my husband got from him some rhubarb powders, which he took part of that same night, and indeed continued to take every day for a while. He took part of these himself, and mixed them with ale and sugar himself, and I also mixed some of them with ale and sugar, and gave it to him. It was a young man who sold my husband the rhubarb powders, and my husband did not ask for rhubarb, but merely stated that he had a sore head and a sore throat, and that he was stuffed about the breast, and wanted something to do him good; and the young man advised him to take the rhubarb. Dr M'Kechnie, when called in, prescribed for my husband some soda and acid drinks, which Dr M'Kechnie also sent, and sometimes I mixed them with water, and gave them to my husband, and sometimes this was done by his father, who was in the house with us two days before my husband died. I have never heard that on my husband's body being disinterred and examined by medical men, they found arsenic in the bowels, but if that be the case, I cannot account for it. He got none from me, and I am not aware that he got any from any body else. All which, after being read over to me, I declare to be truth. Six words deleted. (Signed) CHRISTIANA GILMOUR.
ALEX. CAMPBELL.

(Signed) ROBT. RODGER, *witness.*
W. L. HOUSTON, *witness.*
D. M'PHEE, *witness.*
J. STEVENSON, *witness.*

The foregoing declaration, written on these fifteen pages, by Walter Lamont Houston, sheriff-clerk-depute of the county of Renfrew, was freely and voluntarily emitted by the declarant; and, on being read over, was adhered to by her, and was subscribed to by her and the sheriff-substitute, examinator in her presence, all before these witnesses, Robert Rodger, writer in Paisley, the said Walter Lamont Houston, John Stevenson, corporal of police in Paisley, and Duncan M'Phee, sheriff-officer in Paisley.

(Signed) ROBERT RODGER, *witness.*
W. L. HOUSTON, *witness.*
D. M'PHEE, *witness.*
JOHN STEVENSON, *witness.*

The *Lord Advocate* stated that this was the case for the Crown.

The counsel for the pannel, after being absent for a short time, stated that it was not their intention to examine any witnesses.

The *Lord Justice-Clerk.*—I think that, as it would now be impossible for the jury to retire for deliberation before a very late hour, they had better adjourn now, and meet to-morrow morning at nine. They would be kept secluded in a respectable hotel, and properly attended to by the officers of the Court.

January 13, *(second day.)*

The names of the Jury having been called over,

The Lord Advocate.—Gentlemen of the jury, in a case like this—a charge of murder by poison—the first thing to be considered is, whether death has been occasioned by poison at all. After that, you will proceed to consider how the poison (supposing that proved,) has been administered. Upon the first question we have evidence of a very clear and conclusive kind—evidence as clear as ever has been stated in a charge of murder by poison. The question is, first, whether the death of John Gilmour was a death caused by natural disease, or a death caused by poison? On that subject we have several pieces of evidence. We have the opinions and observations of the two medical gentlemen who examined the body after death, as well as of those who attended the deceased during life, and who also examined the body, which examination was most conclusive as to the manner of death—namely by poison. A few months after John Gilmour's death, rumours arose as to its cause; his body was disinterred in April last; and, on its being disinterred and examined, there were such indications and appearances as left in the minds of the three medical gentlemen no doubt whatever that there was the presence of arsenic in his stomach. The evidence of Dr M'Keehnie on this point was of peculiar importance. It is nothing to say that his suspicion was not excited during the illness; for we now know that, on examining the body after death, and reflecting on what he hade seen during life, the conclusion at which he unhesitatingly arrived was, that th disease and the death of John Gilmour *were caused by poison, and that that poison was arsenic.* But the evidence on the subject does not rest there: Drs Wyli and M'Kinlay afterwards proceeded skilfully and carefully to analyse the contents of the stomach and part of the intestines. They examined these by various tests, and they found arsenic present by all of them, which leaves no doubt on the subject. Then the same inquiry was made in reference to other parts of the contents of the stomach, of the stomach itself, and of the liver,—not by these gentlemen, nor under their guidance and direction, but in a different place altogether, in this city, by a gentleman (Dr Christison) separated from them, and not acquainted with their views, one who is known throughout the whole world as a most skilful chemist. He made other experiments: he applied a different set of tests, and the uniform result of them all was, that he found arsenic in the contents of the stomach, in the stomach itself, and in the liver. If ever there was a case where arsenic was found in the stomach of a party deceased, that case is now before you. If the body had been opened immediately after death, and the arsenic had been found in the state in which it was swallowed, the proof could not have been more clear or conclusive than it is now. The very time that elapsed before exhumation, and the state in which the arsenic was found, is evidence confirmatory of the fact. I have said already that the symptoms during life were consistent with this view of the case; and Dr M'Kechnie is clearly of opinion that death was caused by arsenic, and that the symptoms were consistent with this opinion. I need not go over these symptoms—the vomiting, the thirst, the pain in the lower region of the abdomen,—all these are, in the opinion of men competent to judge, quite consistent with the conclusion to which they afterwards arrived, that the death of John Gilmour was caused by poison. Then also observe the opinion that is entertained by these gentlemen—observe it now,—I shall show its importance afterwards,—their opinion, that death was caused by the administration of arsenic, rather in repeated doses than by one application. His illness commenced on Thursday the 29th, or Friday the 30th of December, and it continued down till the period of his death, on Wednesday the 11th of January. From the fact of his continued illness, and of the continued symptoms, the conclusive opinion is, that this man died in consequence of the introduction of arsenic into his stomach, and that by repeated doses.

That being the state of the fact as to how he came by his death, our next inquiry is—and a very serious inquiry it is—how that arsenic came to be administered? It must have been administered by some one—either by the deceased or by some other person. The important question is, who administered it? We have no reason to suppose that the deceased poisoned himself. In any case in which death occurs by poison, a secret administration is sure to occur: the administration will be secret: it will not be made in the presence of others. In any such case, therefore, the theory may be set up—that the poison was taken by the party himself: that he caused his own death: it is a possible thing, which may be said in every case of poisoning. But the fact of it being said, or supposed, will not be allowed as any rational ground for coming to such a conclusion. In every case of poisoning, the administration is secret. You cannot expect evidence of a party being seen to administer it; the evidence always stops short of the actual fact of the party being seen to administer the poison; that is done out of sight; and you must seek for the evidence in the circumstances of the case, for, by the force of these circumstances, the evidence may be quite conclusive; and where the evidence is conclusive as to the poisoning, you will not take, as a true ground of coming to a conclusion, the mere statement that the party may have effected it himself. Here there is no ground for suspecting any thing of the kind. There is no indication in the conduct of the deceased: there is no ground for suspicion—nothing even has been stated by the prisoner who knew best what was going on—nothing has been set up by her by which one would surmise or suspect that such a thing would occur. The cause and the duration of his illness is against it, because, if he had taken poison, it would have been in such a quantity as would have killed him at once. If, indeed, John Gilmour had been found secretly requiring poison—if he had been a person complaining or grieving of his state and condition in reference to his union with the prisoner, and if he had been then found dead with poison in his stomach, there might have been some ground for this theory. But, unfortunately, it is all the other way. Then there is nothing of a kind to indicate, nor the least ground for supposing, that the poison was the result of accident. There is no trace of his being in possession of poison: something was said, indeed, of his being in possession, at one period previous to his marriage, of poison to kill rats, which he seems to have used, and to have kept in his chest; but there is no ground for supposing that he had poison at the time of this occurrence; there is no ground to suppose that anything was taken out of the chest by which the poison could have been accidentally mixed up along with the food. There is not anything to lead you to the conclusion that he administered the poison himself: he had no means or inducement to do so: there is no suspicion of any thing of the kind. You must, therefore, find the cause of this poisoning in some other way: you must trace it to some other hand: and the question comes to be, how does the evidence guide you in the matter? Does the evidence in the case, or does it not, support the conclusion, which I find it my painful duty to ask you to arrive at? Does it support the conclusion, that the poison was administered by the prisoner? Are the circumstances of the case such as to lead—seriously to lead—to that conclusion, in accordance with all reasonable grounds of judging in the case? I think you will find—I am mistaken if you do not find—that there are in this case, as leading to that conclusion, all the facts and the circumstances that can be expected to exist in a case of administering poison. I have said already that you cannot expect direct evidence that she was seen to administer it—in no case is there less chance of it than in the case of administration of poison to a husband by a wife; and that, too, in a house where there appears to have been no servant attending them within doors—where the wife has charge of every thing, where she prepares and sends the food, attends upon her husband during illness—administers his medicines—is constantly about him; in no case can you less expect to find direct evidence of her being seen to administer the poison. What, then, are the important circumstances to be looked for in this case? Having established the fact, which you must never lose sight of for a moment, that this man died by the administration of poison, what are the things which you are to look for and expect in the course of the inquiry? He dies by poison administered by some one—I say by the prisoner. Then you will require to be satisfied, in the first place, was the prisoner in the course of acquiring poison, and the kind of poison of which he died, at the time that poison was administered? Second, had she an opportunity of administering that poison secretly or unobserved? In the third place, did there exist any motive for administering the poison? And, finally, is there any ground or room for suspecting any other person of the guilt? I am mistaken if, in this case, you do not find the concurrence of all these circumstances, and that in a way the most striking. In the first place, was she possessed of poison, and of the kind of poison, at the time that it must have been administered to the deceased? I think, on examining the evidence, you will find not only that she was possessed of arsenic, but the evidence shows that there was traced into her possession, three several parcels of arsenic. The first of these was on the 27th of December; the second on Friday the 6th of January; and the third, on Saturday the 7th of January. For the first, you will remember that she sent the girl Mary Paterson, who states, that on the Monday before New-Year's day, she left her mistress to go on a visit to her sister in the country, and to return on the Tuesday; and she states, that on going away, her mistress desired her to go to a house in Paisley, and direct a "callant" to purchase a parcel of arsenic. It is a little singular—it is worthy of observation—that she did not desire her servant-maid to go herself to the shop and purchase it, but, obviously with a view to break the chain of observation, she was to call somewhere else and send a boy. The girl did not remember the name of the house, and she did go and purchase it herself, and delivered the arsenic so purchased to her mistress. The apothecary or druggist who sold it, asked who it was for; and the girl, not knowing any reason for concealment, stated who it was for, and afterwards communicated this to her mistress. That is the first parcel which was traced into her possession. I shall speak afterwards to the evidence there is of how it was disposed of. This was on Tuesday the 27th of December: the apothecary's lad indeed thinks it was in the middle of December; but I think the servant girl can scarcely be mistaken as to the day on which she visited her sister; and she says it was on the Monday before New-Year's-day; and, as the poison was bought on her way home, the day after that would be Tuesday the 27th of December. That parcel was marked, "arsenic, poison." She stated that the doctor told her it was so marked; and the apothecary's lad says the same thing. The second parcel that was traced into her possession—remember we do not undertake to trace all the parcels she may have had—she may have acquired others of which we know nothing—but the next parcel which I trace into her possession is that which John Muir found in a bag or reticule lying near the boiling-house. I think it is clear that this is a distinct parcel of arsenic or poison from any of the others. John Muir states, that he had been that morning engaged before day-light in thrashing. He came home to his breakfast about 7 o'clock. He passed near the boiling-house door, and saw nothing then; but when he went out after breakfast, taking the same road, he found a bag lying, and in it he found a phial containing a brown substance, and a paper marked "poison." He communicated this to the servant-maid, and she took it in to her mistress, and "spiered at her, was that her bag;" and she said, yes. In that bag there was a small parcel marked poison. The servant-maid thinks that it might be turpentine that was in the phial; but John Muir says he smelt it. It had a sweet smell, and not the smell of turpentine. This happened on the Friday; and I say, that to this we have first the direct evidence of Muir; and, next, the direct evidence of Paterson. Both are positive that this was on the Friday, and both are positive that it was on the morning of the day on which the doctor was sent for. He was the man that went for the doctor; and he is positive that the bag was found on the morning of that day. There can be no doubt then that Friday was the day. All the witnesses concur that on that day the doctor was sent for. They are not only positive that it was on the morning of the day the doctor was sent for, but Muir's reason for going for the doctor puts it beyond doubt that it was Friday—because he stated, in answer to a question from the Court, and that settles the point as to the day as conclusively as anything can be said to do. He says, the reason that urged him to send for the doctor was the finding of the bag. He went on the Friday night; and he went because he had found the bag in the morning; therefore he could not have found the bag in the morning after he went. There is another circumstance to show that this was a distinct parcel from the others. Muir mentions that the only word written on the parcel was the word "poison." Now this was seen on no other parcel; for the first parcel contained the words, "arsenic—poison," and Dr Wylie's the words "poison—arsenic." Muir says that the one he found contained only one word—"poison." He could not mistake that: the girl Paterson might have made a mistake, because she was only told what was upon the parcel. This, therefore, was the second parcel of arsenic traced to her possession. I remark, further, with regard to Friday morning, that it is proved she was away that morning: that she left her home. Paterson knew of her leaving home; but she told Paterson not to tell the other servants that she was away. She said she was going for something for her husband, and there is no trace that she brought home anything for her husband but the contents of that bag: the phial and the parcel were the only things brought home that day. The next parcel I trace into her possession was on Saturday the 7th of January, and which she purchased from Dr Wylie of Renfrew. There cannot be the slightest doubt of this purchase: nothing can be more clearly established. Dr Wylie does that which every druggist ought to do, and which shows the accuracy and correctness of his conduct, and the cautiousness of his dealings. He preserves a record of all the arsenic he sells, the date of the sale, the name of the person who applies for it, the place where it is to be used, and the purpose to which it is to be applied. He tells you that on Saturday the 7th, and it is so recorded in his book, a person called and asked for a quantity of arsenic, and that he sold it to her. His wife confirms him as to the date; so does Smith, the witness, who is brought in; and both Mr and Mrs Wylie speak to the fact, that next day, being Sunday, a person came to their shop to make a purchase of medicines, for the use of Mr Gilmour; and you have evidence that, on Friday forenoon, Dr M'Kechnie suggested a prescription, and that a servant went to Dr Wylie's to procure the medicines. Therefore, as to the date of this last purchase, there can be no doubt. Then you have conclusively traced to her possession, on the 27th December, the 6th January, and the 7th January, three several acquisitions of arsenic. It is therefore proved that she was not only in the possession of arsenic, but that she made repeated acquisitions of it—a fact which corresponds with the opinion of the medical men as to the cause of death. Then, how was that arsenic acquired! Was it openly and avowedly, or was it done secretly, and upon false statements? I have already adverted to the acquisition of the first parcel of arsenic, as stated to be for the purpose of killing rats, and to the round-about way in which it was acquired, by sending some one else to ask for it. As to the time of her acquiring the second parcel, I do not pretend to be able to explain; but if she acquired it that morning, when she went away, desiring her maid not to say that she was away, without stating or assigning any reason, I submit that this was a secret acquirement. As to the third parcel, you have most clearly in evidence the manner in which that was acquired. She told Dr Wylie that it was for John Ferguson, in a direction different from the farm in which she resides, for the purpose of killing rats. She gives a wrong description of the locality of the farm; and she gives her own name as Robertson, and then, with great cunning and adroitness, she pretends to forget the name of the farm—having recently come to it—thus attempting to destroy all trace of observation. That acquisition of the arsenic is in all its circumstances suspicious. A stranger, she goes into a shop, to persons whom she does not know: she gives a false statement of the person for whom the arsenic was intended; she gives herself a false name; she states a false reason; and she assigns a dexterous reason for not being able to tell the place where she is to go. Perhaps it is not immaterial to remark here, that when medicine of an innocent character was to be obtained from Renfrew, she does not go for that medicine: she never showed her face in Dr Wylie's shop again. We have her, therefore, in possession of poison: of repeated acquisitions of poison, under circumstances secret, and, in every view of the case, most suspicious. Then, is the disposal of the arsenic satisfactorily accounted for? In regard to the first parcel, she states that she destroyed it by throwing it into the fire. The girl Paterson gives this for a confirmation to her statement; but she states it was not on the same day she gave it her, but on the next day that she came into the boiling-house with a parcel similar to that which she delivered to her, and threw it into the fire, stating that it was the poison which she brought, and gave, for a reason for so doing, that she was afraid to use it, or did not know how to use it. Paterson had told her before, that in answer to a question put by the druggist, she told him for whom the arsenic was intended. If that arsenic was intended for the purpose alleged—for the destruction of rats,—then, undoubtedly, the fact that the druggist was told for whom it was obtained was no reason for destroying it. But if it was intended for a purpose such as that which I allege, the fact that the druggist was told for whom it was purchased was a reason why, in the presence of the person from whom it was received, she should either destroy or pretend to destroy it. The girl said that it was a similar parcel; and that the next day she came into her presence—why she should have selected her presence rather than throw it into the fire of the boiler, I am sure I know not; but in her presence she destroys a parcel which she says was it—and that for a reason, and under circumstances altogether different from that which was at first alleged. Then, as to the second parcel of poison, which was traced into her possession on the Friday, we have no account whatever. And to the parcel which she acquired from Wylie, and which she endeavoured afterwards to prove was the one found in the bag, but which was plainly a parcel obtained next day, she says that she carried that in her pocket—that, afterwards, some of it came out of the parcel, and that it was found in her pocket after her husband's death, by her mother, who destroyed it, and that she told her mother the purpose for which she acquired it was that of self-destruction. There is no attempt made to support this statement. She does not examine her mother upon the subject. Her statement is, that she put it in her pocket, and then she thinks she dropped it in her bag, and that it was brought to her by the servants; but the bag was found on the previous day, and under a circumstance which, as I forgot before, I shall notice now. Along with the parcel in the bag was found a small phial, containing some fluid, and which was acquired by herself. There is no evidence that she acquired that phial in Dr Wylie's, or any where else, on Saturday. Friday, therefore, is the day on which she had a parcel and phial. Saturday was the day on which she had a parcel, but no phial. As to the application or disposal of that parcel, she does not support her statement in evidence. The next thing is, how does she account for the acquisition of the arsenic at all? She acquired it for the purpose, she says, of destroying rats. The purpose which she assigns now is the purpose of self-destruction. That is a purpose which rests entirely on her own statement. That purpose may be alleged by any person, in any and every case, who acquires arsenic secretly or suspiciously; it may be always alleged that their purpose is not to poison others but themselves. But it is not likely—it is not credible, that, for that purpose, she should have acquired those repeated quantities of arsenic that have been traced into her possession successively at such short periods. It is not likely that the purpose of self-destruction should be working in her mind at the time when her husband was dying. It is not likely that she should require poison successively, almost day by day, and then throw it away, if her purpose was self-destruction—and especially when that is accompanied, on her part, by no attempt so to use it. When a person requires poison for such a purpose, has full opportunity to use it, and yet does not, the mere allegation of that purpose, unless it is supported by evidence, is nothing more than the statement of the prisoner; and there is nothing in this case to support the allegation. Indeed she does make a statement of such an intention on her part, and assigns a reason for it; but when I come to that part of the case, I shall endeavour to show that the reason she assigns for self-destruction necessarily implies a state of extreme suffering and unbearable distress from being united to the prisoner. Then, this is the position which we have got, that at the time arsenic was administered to John Gilmour she is in the possession of arsenic, which she acquires in repeated quantities—which she acquires secretly, and under mis-statements—which she acquires upon pretences that are not true, that she does not satisfactorily account for disposing of them, and that the reason why she acquired them is not supported in evidence. The next element in the case is the opportunity of administering the poison. On that I need scarcely say any thing here. The opportunities were every opportunity that can possibly exist. She prepared the food—she had the custody of every thing in the house: she seems to have mixed the medicines—in short she had the sole preparation of every thing that he took. She attended him constantly during his illness—in short, she had every opportunity which a person could have. The next point is, there being thus the acquisition of poison, and opportunities of administering it, was, or was there not, any motive for administering it? I don't know that we are entitled to look for an adequate or sufficient motive here—because no motive can be adequate to so terrible a crime. But we have in evidence such a motive as, in a mind not well regulated, has been found in other cases to lead to such results. On that part of the case, you have the history of this prisoner as given by herself. You have it in evidence from various persons, and from herself, that she was dissatisfied and grieved with her condition as the wife of John Gilmour. There was a previous attachment to another person, and she does not appear to have been attached to Gilmour. It appears that she was constantly complaining of the circumstances of having been, as she says, under the persuasion or control of others, compelled to unite herself with him. We have, therefore, this person speaking of this to servants and others around her. She could not restrain herself, she could not maintain even that reserve which one would have thought ordinary propriety would have dictated. The matter seems to have taken possession of her mind, for her dissatisfaction was of the most extreme kind; so extreme that, according to her own account of the matter, she could not bear it, and she meditates self-destruction to put an end to her distress. She acquired poison for that purpose. She acquired poison for the purpose of putting an end to that condition of matters which was caused by her union with John Gilmour. She acquired poison for the purpose of putting an end to the union; and, Gentlemen, there are two ways in which arsenic might be used by her to attain that end—she might have poisoned herself, or she might have poisoned her husband. Her husband is poisoned—she is not. Can you then doubt the purpose for which the poison was obtained, or the purpose for which it was used? The union is dissolved, and scarcely more than dissolved, ere she begins to correspond again with the person to whom she was previously attached, and who seems never to have been absent from her mind during the whole of that disastrous marriage. Now, Gentlemen, here are the circumstances of the case. John Gilmour is poisoned—that is clear. Who poisoned him, is the question. The prisoner had all opportunities for doing so. She was in a melancholy frame of mind; in a state of unbearable distress. She acquired poison secretly by means of misrepresentations; and, on repeated occasions, she says that she intended this poison to destroy herself; but it is an extraordinary thing that while she has not carried that purpose into execution, the cup which she intended for herself has not been quaffed by her, but was by some unknown, some mysterious hand, conveyed to the lips of her husband. What other mode have you to account for this? There is no reason to suspect self-destruction. He is not found acquiring poison, or in a state of mind which would lead you to suspect him of intending it. The whole circumstances of acquiring poison concur to fix the guilt upon one person, and one only. And under what loose notion or theory are you to avoid the conclusion, to which the evidence directs your minds. There are in this case certain minor circumstances which point to the same conclusion. It was on Tuesday, the 27th December, that the first packet of poison was acquired. His illness took place on the Thursday, and though it continued, with severe vomiting, no doctor was sent for till the Friday of the following week. She went on Friday to her uncle, and stated to him the condition of her husband. The use of that statement is not very clear. It seems to have been commenced in a strange kind of way; and whether she expected her husband then to be alive or not, I don't know, but she put off the visit of a doctor till the Saturday. And, indeed, it is not at all clear what her object in meeting her uncle was. Mr Robertson did not know him. It appears, indeed, that he knew him by sight. He had seen him at the Cross. Then, again, you will recollect that when Dr M'Kechnie visited him, he gave special instructions that the matter he vomited should be preserved. He gave those instructions to her, and they were not obeyed. She assigned as a reason, that there was very little, and that she had thrown it away. But there being little, if that was true—and certainly the man says that he did not vomit so much as before—was not a reason for throwing it away. Then we have the fact that this party, after the murmur arises of her husband's death by poison, leaves the country, and that secretly, and under a false name. She leaves as soon as suspicions arose, and when it was known that the body was to be exhumed. Her father gives an account of this; and so does she. She says, that she left against her will, and at the urgent advice of her friends. She says that she was taken away secretly—that she did not know where she was going, and that she went against her will. She does go though. She acts on the advice of her friends; and she goes under a false name, for she is found in America under the name of Spiers. It was farther said, that she was desirous the body should be raised and examined; and an attempt was made to prove that the body was raised on her application, but that does not appear. It appears that the father went to Dr M'Kechnie, and that his account was satisfactory. He was not then of the opinion which he came to afterwards. The father then went to the Fiscal, but did not see him; he saw his partner or some other person; but at any rate it does not appear that it was at her application the body was raised, nor does it appear that when the body was raised the father desired to see the result, which might be expected from his going to Dr M'Kechnie. By far the best view that can be taken of the matter is, that the father advises her to go out of the way, and lays the plan for her to go out of the way. It appears, also, that there was a letter from her to Anderson. That letter was destroyed, so that we have not the contents before us. It was destroyed by the father, under whose advice she was acting. Anderson recollects that in it she stated that she was unwilling to go away; that she regretted being separated from her friends; and he recollects that there was in it a passage about arsenic, and that she would admit that the arsenic was intended for herself, and not for Gilmour. That letter was given to her brother, and by him to her father. The father read it: the brother says that he read it cursorily. I can scarcely think, that, under the circumstances, the reading of that letter, either by father or brother, would be a cursory or even a single reading, or that one passage or expression in it would escape a frequent perusal. That it contained something about arsenic is clear from the statement of Anderson. Yet her father and brother have no recollection that such a passage was in the letter. But they have a distinct recollection that the letter contained expressions of regret at her going from her friends, and yet, in this state of matters, the father destroys the letter. But the fact is certain, that in this letter she endeavours to account for the purchase of the arsenic, for it was then known that the investigation was going on, and that Mary Paterson purchased the arsenic for her—very possibly other purchases had been made by others. In these circumstances, and in all the other parts of the case, you have all the elements of a case which are required in that of a death by poison; the acquisition of poison—the repeated acquisition of it; no account of its satisfactory disposal; and you are presented with a motive—alienation in heart from her husband; and therefore I humbly submit—though it is most painful for me to do so—yet in the discharge of an imperative duty, I ask you, in the discharge of a duty which you owe to your country, to find this case established, that arsenic caused the death of this man, and that it was administered by the pannel at the bar.

Mr Maitland.—I join with the Lord Advocate in reminding you, that this is a question of life or of death. In criminal courts this is never a question of mere presumption or of probability; but it is one which resolves itself into direct legal evidence. The position with which I start is—that, unless the case on the part of the Crown has made guilt certain, and innocence impossible, you cannot convict my client. The Lord Advocate himself admitted that the evidence must necessarily lead to the result of clear guilt before you can convict. That is just my proposition, and I claim the special attention of the Jury to it, when you retire to consult as to your verdict. The question between the Jury and me is not whether the prisoner be covered with a very dark shadow of suspicion—not that you have strong doubts of her innocence, but if there is legal evidence on which, upon your oaths, you are entitled to hold her guilty. There were, no doubt, many things connected with the case which were unfortunate for the prisoner—a great deal had been said and thought out of doors; but I feel confident that I do not require to impress upon so intelligent a jury as that which I am addressing, that it is your bounden duty to forget all that you have either heard, or read, or thought in the case, up to the moment you entered the jury-box. It is most desirable in such cases to get quit of every point, so as to leave no room for doubt. I will, therefore, at once make three distinct admissions. In the first place, there could be no question as to the identity of John Gilmour's body, or as to the substance taken from it, and transmitted in the regular way to the competent authorities to be subjected to investigation. All connected with this part of the case, I frankly admit. Next, as to the medical evidence, in regard to arsenic found in the stomach of the deceased—that was proved beyond all possibility of doubt. Again, there could be no doubt as to the third proposition, which related to the cause of the death of the deceased,—that he died from the effects of poison. I admit all that, but I will at this stage make one observation upon the medical evidence, though it bears upon the subsequent part of the case. The Lord Advocate contended that he had made out that death had been caused by repeated doses of arsenic. Now, I cannot discover any evidence that had been heard, or any thing whatever, that entitled the Lord Advocate to say so. On the contrary, one of the doctors gave it as his opinion that death had been caused by only one dose, and that administered shortly before death. Dr Christison was indeed a man of eminence; but it was to be observed, in regard to his evidence, that he was not present at the dissection of the body. Now, he had said, "that a single dose might produce protracted illness, though not so readily as repeated doses."

All we draw from this is, that if it is a point in the case for the Crown, that death had been caused by repeated doses, it had not been made out. But, notwithstanding all these points, which, perhaps, appeared to go a great way in support of the Lord Advocate's case, there remained behind the grave question, whether the commission of the crime had been brought home to the prisoner by legal and conclusive evidence? The crime charged was of no ordinary kind, and one which I confess I had great difficulty even in imagining. The evidence adduced in support of the charge was purely and entirely circumstantial. My learned friend himself admitted that he had no direct evidence as to the administering of the poison by the prisoner to her husband; and he had followed up his statement by telling them, that in cases of this sort it seldom happened that there is any other than circumstantial evidence. Before proceeding to that circumstantial evidence, there were some preliminary points which I think so intelligent a jury will be inclined to view as of importance in such a case. First, I would direct your attention to the previous good character of the accused. You have before you a female belonging to a respectable family, brought up under her father's roof, continually under her father's care up to the time when she was consigned to John Gilmour. One of the witnesses, in particular, had spoken as to her innocent and blameless character; and I am sure my learned friend, if he had the opportunity of replying to me, would not dispute, that of all others the accused was one whose character could least excite suspicion of committing so serious a crime. The Lord Advocate had dwelt considerably on the inducements to commit the crime charged, and had contended that there were sufficient motives for the prisoner committing it. I will not bandy words as to the meaning of the term sufficient, but this I do maintain, that the motive might be an adequate motive, and in this sense there was not sufficient motive, in the proper sense of the term,—that there was not sufficient, or, in other words, adequate motives, to account for the perpetration of one of the most outrageous of crimes. Before you make up your minds that the pannel has murdered her husband, you will require to be satisfied that she entertained towards him something approaching to remorseless hatred, and you will require to ascertain what was the cause of such hatred. Have you heard any evidence of the sort? Has my learned friend any more to found upon, except the statement which fell from the lips of the prisoner herself, and which went no farther than that she had some secret and unexplained sorrow in connection with her marriage? When I saw the long list of witnesses for the Crown, I did expect that something substantial and convincing would have been adduced to support this point. But, from the commencement of the trial to its termination, nothing of the kind has been brought forward, and my learned friend has been forced to go to the declaration of the prisoner for evidence to support his plea. He has directed your attention to what the prisoner had said to the witness Paterson, and more particularly to Robertson; and he has asked you to consider that statement, as affording an adequate and satisfactory explanation of the motive by which this outrageous and unheard-of crime was perpetrated. The evidence of Robertson was particular upon this point. I admit that the marriage involved in some degree dissatisfaction on the part of the pannel; but Robertson declared distinctly, that the prisoner never expressed herself with any degree of excitement —that he never thought there was any thing odd or remarkable in what she said to him. The witness gave her a good advice, and reminded her that she had pledged herself at the altar to be an affectionate wife, and that things might so turn out as would make her union with her husband comfortable and happy. Robertson said farther, that the prisoner took his advice kindly; he declared also, that prior to the death she showed no excitement whatever, and that after it took place also she showed no indication of alarm or excitement. This part of the case, then, I contend, amounts absolutely to nothing; and are you to consider the circumstantial evidence of the case, with a view to establish the guilt of a person, without any intelligible or assignable motive being shown for its perpetration? The question is, whether that circumstantial evidence is sufficiently strong to convict the prisoner of a charge so serious. The next point I would ask you to consider is—and it is one of great importance—the general conduct and deportment of the prisoner during the period of her husband's illness. If you are to believe the Crown, she had been engaged for days in perpetrating the crime with which she stood charged. That for thirteen days she had constantly and continually been engaged in gradually perpetrating the murder of her own husband. Now, human nature, in such circumstances, would afford some remarkable symptom for observation; there would be some symptoms of excitement or confusion. Look to the whole evidence in the history of this domestic tragedy—look to it from its commencement to its termination—and say if the conduct of that woman discovered symptoms of conscious guilt. Mr M'Kechnie declared, that so far as he saw, she behaved herself quite collectedly and properly. The witness Robertson, who saw more of her, declared that she complained of no unkindness on the part of her husband; that she seemed like a person who was grieved, and that she sometimes wept when she talked of her marriage. I submit, that in all her conduct to her husband—her attendance upon him during his distress—she behaved with most becoming attention. Nothing could exceed her attention and kindness; it was all that an affectionate wife could do to a husband on his death-bed. She had sought medical aid when he took ill, and did everything, in short, which was quite opposed to the conduct of a person who was guilty. Then, again, Gentlemen, do you find in the conduct of the prisoner what you would naturally, in such circumstances, expect to find, if she were guilty of the fearful crime imputed to her—any averseness or disinclination on her part to permit and afford every access to her husband during his illness. On the contrary you find the very reverse; no putting of any restraint on any of the servants and other inmates of the house—all of which, I contend, showed the innocence of the prisoner. I now come to the question as to the possession of the poison. In this part of the case, I differ from my learned friend. I hold that there were only two parcels of poison bought, and not, as my learned friend had contended, three. I deny that it has been proved that the prisoner got a parcel of arsenic on Friday the 6th of January. The witnesses who had spoken on this point, had in consequence of the length of time that had elapsed, forgot the exact day, and had thus fallen into the mistake of attributing what took place one day to have taken place on another. As to accounting for the disposal of the arsenic, if you keep in view that there were only two parcels of poison, you will have them both accounted for by what was said of them in the evidence. The first parcel had been burned, as declared by Paterson, while the second remained in the pocket of the prisoner, where it was found by her mother some weeks after the death of her husband.

Gentlemen,—I think I cannot do better, after the observations I have made, than to conclude in the words of a great pleader while addressing a jury, as I have now the honour to do, in a case of similar mystery and in circumstances not unlike to those in which I now find myself:—"This case could never, under any view, be considered but as one of a most painful and afflicting character. If proved, the pannel's guilt was of a most unpalliated kind. They would either return her to society as innocent, or condemn her to death as a most foul and and detestable murderess. It was altogether incredible from its extreme atrocity. There was no motive—no provocation; and yet they were called upon to believe, that, under pretence of administering relief, she inflicted a death of agony and torture, and stood by unmoved, while her helpless victim was descending into an unpitied grave. He was anxious to put them on their guard against yielding to the honest indignation which imputed guilt like this was so apt to excite. There was no cause by which good men were so often hurried into erroneous judgments. It was a natural, laudable, instinctive feeling, which roused the human mind to indignation on the bare suspicion of so enormous a crime having been committed, and which made it prone to punish. But they would fortify themselves against this feeling, and dispassionately weigh the evidence that was before them. In itself it was hardly a credible case which involved in itself so many unheard-of aggravations. They should rather cling to any opposite supposition, by which they might arrive at a more natural conclusion."

The learned gentlemen, in conclusion, called upon the jury solemnly to consider whether upon evidence so circumstantial and imperfect, they could convict the pannel. If, in the case of the prosecution, there was awanting one link in the chain of evidence—if there was a doubt, or the least obscurity in it, it was their duty to give the prisoner the benefit of it, and return a verdict of *not proven.*

The Lord Justice-Clerk charged the jury. The address of the learned Lord occupied four hours and a-half in delivery.

At half-past four the jury retired, and in about an hour afterwards they returned into court, and by their chancellor returned the following verdict:—"The jury, after careful and mature deliberation of the evidence brought before them in this case, are unanimously of opinion that John Gilmour died from the effects of arsenic; but they find that the charge is *not proven* against the pannel at the bar as libelled."

The prisoner was then dismissed from the bar.

MIDWIFERY.

DELIVERY AT THE FULL TIME AFTER EIGHT ABORTIONS, AND ONE PREMATURE LABOUR.

The case is that of a woman of good constitution, married at the age of 17. Shortly after marriage, she became pregnant, and without any assignable cause miscarried at the third month. From that time, until the age of 28, she had seven more abortions, all occurring previously to the 5th month. When about three months gone in her ninth pregnancy, she put herself under the care of the reporter. He found none of the circumstances present which are likely to promote premature contractions of the womb; no appearances of plethora, general or local. The treatment, with a view to prevent a miscarriage, consisted in confinement to bed for fifteen days previous to, and fifteen days after the date of the last one, a moderate bleeding from the arm nine days before the menstrual period, which was twice repeated at intervals of a month; the bowels kept open by enemata; anodyne frictions to the hypogastrium, and inside of the thighs; with opiate enemata at the periods of former abortions, and on the least threatening of uterine pains, light diet, and the utmost possible physical and moral repose. The orders of the physician were rigidly attended to, and she arrived at nearly the eighth month, with every prospect of completing her full time, when she suddenly felt an enormous discharge of liquor amnii, and after a few griping pains, was delivered of a very feeble infant, which survived but a short time. On examining the placenta, the membranes were found to be extremely thin, and easily lacerable. This tenuity of the membranes, combined with a large accumulation of fluid, appeared sufficient to explain the cause of the abortion; and, accordingly, in managing the patient during her next pregnancy, which occurred a year after the circumstances already detailed, the treatment was directed to correct these circumstances. To this end, in addition to the means formerly adopted, the proper indications seemed to be to diminish the amount of the circulating fluid, and to promote a constant and copious diuresis. Consequently, all drinks and ingesta were, as far as possible, prohibited, and nitrate of potass was abundantly given. Three small bleedings were practised, between the end of the fourth, and the end of the sixth month; and in the slightest threatening of uterine pains, the opiate frictions were had recourse to, and a dose of codeine administered. This practice was attended with the most complete success, and the patient was delivered at the full time, of a strong and well formed male child. On this occasion, the membranes ruptured with the first contractions of the womb; and on examination, after the expulsion of the placenta, were found to be, as before, of remarkable tenuity; but the quantity of amniotic fluid was, this time, not greater than natural.—*Journal de Médecine, et de Chirurgie Pratiques*, Dec. 1843.

AMENORRHŒA CONNECTED WITH DEFECTIVE CONFORMATION OF THE GENITAL ORGANS. BY M. BERARD.

A girl presented herself to M. Berard for examination, stating that her mistress had accused her of giving venereal disease to her son, a boy eleven years of age. On examining the external parts, they were observed to be in a state of such perfect integrity, with the hymen unbroken, that it was not thought right to carry the investigation further. An elastic bougie, however, was passed through the narrow orifice of the hymen, and on withdrawal, no matter of a suspicious character being found upon it, it was concluded that no venereal affection was present. In the mean time, however, the boy was found to have balanitis, and it was also found that he had had connection with the girl. Consequently, she was subjected to a more minute examination, which left no doubt that she was affected with amenorrhœa. The interesting part of the case, however, was, that this girl, perfectly well formed, though of weak intellect, and now nineteen years of age, had never menstruated. The full development of the breasts precluded the idea of protracted puberty. It was therefore a case of amenorrhœa; and the question came to be, to what cause the absence of the menses was to be ascribed. It seemed evident, that this was not one of the instances of occlusion of the vagina, and consequent accumulation of the menses in the womb, and distension of that organ, capable of being relieved by operation; for there was no abdominal swelling, and no physical impediment to the flow of the menses. Were, then, the ovaries or the uterus absent? The development of the breasts precluded the former supposition, and examination per vaginam was no less against the latter; the cervix uteri being discovered small, but capable of admitting the end of a probe. Under these circumstances, was seen the propriety of conjoining an examination by the rectum to that usually practised per vaginam. On introducing the finger into the rectum, the body of the uterus was felt no larger than that of a child of five or six years old; so that the amenorrhœa was found to be dependent on atrophy of the womb, and therefore not capable of being benefited by the use of emmenagogues, which would most likely have been prescribed, had such an examination not been made.—*Journal de Méd. et de Chirurg. Pratiques*, Dec. 1843.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 86 of last Number.)

Wednesday, January 3, 1844. Dr GRAHAM, President, in the chair.

Spasmodic Affections of Respiration.—Dr John Scott read, in continuation of a former paper, a notice on a spasmodic affection of the breathing in females, in which he stated that he had found the application of the *Linimentum Ammoniæ Compositum* to the neck, from the first to the fourth cervical vertebra, give immediate relief. He also mentioned that he had found a similar treatment effectual in removing paroxysms of spasmodic asthma.

Adjourned Conversation on Dr Henderson's paper on the present Epidemic Fever.—Dr Alison observed that hitherto he had had great hesitation in admitting that the present fever was a different disease from ordinary typhus, but acknowledged that some of the facts adduced by Dr Henderson in his paper at last meeting, could not be explained, except on the ground of the existence of two distinct specific poisons. The difference in symptoms between the present epidemic and ordinary typhus were such as to render it easy to distinguish the two forms of disease, and Dr Alison noticed, besides the symptoms mentioned by Dr Henderson as characteristic of the present epidemic, the remarkable frequency of abortion in pregnant females attacked by it, and a decidedly greater mortality from the epidemic fever in young patients, as had been made out in the Glasgow mortality bills by Mr Watt.

Bearing in mind, however, the great variety in the symptoms which occurs in different epidemics of fever, Dr Alison could not admit the existence of two specific diseases, from differences in the symptoms merely, but he founded his opinion on such facts as those brought out by Dr Henderson in tracing the history of the origin of cases of the disease; and in corroboration of Dr Henderson's views, quoted instances where individuals had gone through the epidemic fever in all its stages, immediately after an attack of regular exanthematic typhus, and mentioned examples of the prevalence of one or other of the diseases, without the other, in individual localities and in different families residing in the same neighbourhood.

Dr Christison remarked, that the statements regarding the greater mortality in young patients in Glasgow, might be owing to the greater number of seizures in young subjects, a circumstance not attended to in constructing the tabular statements referred to.

Dr Alison replied, that as the same objection applied equally to the mortality statistics of typhus, the one error, by counteracting the other, would leave the truth to be very much as stated by him on the authority of Mr Watt.

Dr Watson called attention to the inflammation of the eye following the fever, of which he had seen several cases, as one of its most characteristic features.

Dr Alison stated that this inflammation of the eye appeared to be more common, and more severe in Glasgow than in Edinburgh.

Dr Christison recalled the Society to the original question as to the difference of the two diseases. Dr Christison stated that all his prepossessions were in favour of believing them to be the same disease, but he owned that a few cases similar to those mentioned by Drs Alison and Henderson, would tend to establish the contrary opinion. He stated, in relation to the peculiar characters of the present disease, that it was not a new one, but had been described by himself as "*synocha*" in his article on fever in Dr Tweedie's *Library of Practical Medicine*. He stated that, at the time when he had observed the same fever twenty years ago, it was the general impression that it could produce common typhus, and *vice versa;* that recollection could not of course be brought into competition with the precise statements of Drs Alison, Henderson, and others,—which, however, would require further confirmation before they could be adopted as decisive of the distinction of the two diseases.

Dr Spittal remarked, that, to his mind, the evidence in favour of the present epidemic being a different disease, having a separate and distinct origin from typhus, though very strong did not amount to a proof; and stated, that it might assist us in coming to a definite conclusion on this important point, were the statistics of those cases which had been regarded as affording the strongest evidence in favour of the distinction known; *i. e.* those in which the patient had *first gone through a regular typhus, and shortly afterwards become affected with the present fever.* For, on the idea that the latter is caused by the same poison as the former, modified in some unknown manner, it may be found that those who have previously suffered from typhus, have had a milder attack, in general, of the present epidemic,—as is the case in subsequent attacks of small-pox,—than those who have never been affected with typhus.

Dr Spittal also called the attention of the Society to the interesting fact, that the present epidemic seems to be exactly the same *in all its important features* as an epidemic described by Hippocrates as having occurred in the island of Thasus, off the coast of Thrace, showing in a remarkable manner how the same variety of fever has apparently remained unchanged for upwards of 2,000 years, and continued to manifest itself from time to time. In proof of this, Dr Spittal quoted the following observations and cases from the description of epidemics by that ancient author :—" In the very beginning of the *spring, burning fevers* came on, and continued to the *æquinox,* and even to the *summer.* Most of those escaped who were seized presently after the beginning of the *spring* and *summer,* and some few died; but when the *autumn* and wet weather set in, they proved mortal to many. These fevers were of such a nature, that where any one *bled freely and plentifully at the nose,* he was saved by it more than by any thing else; and not one of those who were taken thus, died this season, so far as I know. For *Philiscus* and *Epaminon*, and *Silenus*, bled but a few drops at the nose the *fourth* and *fifth* day, and died. Most of them were seized with *shiverings* about the *crisis*, especially where there had been no *hæmorrhage*, and with the shivering came on a *sweat* about the head and shoulders. Others again were attacked with a *jaundice* the 6th day, and these were relieved either by a *discharge* by urine or stool, or a *plentiful hæmorrhage*, as *Heraclides* was, who lived with *Aristocydes*. Not but he bled at the nose, and had the benefit of the other evacuations too; and so was freed the twentieth. It fared otherwise with the servant of *Phanagoras;* for as none of these things happened to him, he died. *Hæmorrhages* were very frequent, especially among young persons and adults; and, where nothing of this kind happened, it very often proved fatal. Those who were more advanced in years had *jaundice*, or a *disorder in their belly*, or a *dysentery*, as *Bion* who lived with *Silenus*. In the *summer*, *dysenteries* were *epidemical;* and, even where hæmorrhages had happened, some were at last seized with *dysenteries*, as Eraton's boy, for instance, and *Myllus;* for they, after a great *hæmorrhage*, fell into a *dysentery*, and recovered. This humour was particularly redundant in many. For, where there was no *hæmorrhage* at the *crisis*, the *tumours behind the ears* disappeared, and upon this a weight was felt in the left side of the belly, and at the extremity of the hip. Pain coming on after the *crisis*, and the urine passing off, they began to *bleed a little*. Thus, *Antiphon*, the son of *Critobulus*, had the *twenty-fourth* day a separation of humours by *bleeding;* his disorder ceased, and about the *fortieth* he got rid of it. Many women were taken ill, but less than the men, and died less. Many of them had hard labours, and after the birth were taken ill again, and for the most part died, as *Telebolus's* daughter, who died the 6th day after her delivery. A great many had their *menses* come down in their fevers; others *bled at the nose*, and many young girls had the first appearance of their *menses* then. Others again *bled at the nose*, and had their *menses* too, as *Dætharsis's* daughter, for instance, a maid who had them then for the first time, and also bled plentifully at the nose. Nor do I remember any died, where any one of these happened well. All of my acquaintance miscarried that chanced to be with child. The *urine* was in general well-coloured, but thin, and with a small sediment. The *stools* were thin and bilious, and in many, where there was a *crisis* in other respects, it terminated in a *dysentery*, as in *Xenophanes* and *Critias*. The *urine* was watery, much, clear, and thin: and even after the *crisis*, where there was a good sediment, and in other respects a laudable *crisis*, a *dysentery* came upon some, as particularly upon *Bion*, who lived with *Silenus*, *Critias*, with *Xenophanes*, *Areton's* boy, and *Mnesistratus's* wife, who were all afterwards seized with a dysentery. *Query*, Whether it was owing to the *watery urine?*"[1] . . . . . .

"*Critical circumstances*, by which we distinguish, are either alike or unlike, as in the case of the *two brothers*, who lived by *Epigenes's* Theatre, and were taken ill the same hour. The eldest had his crisis the *sixth* day; the youngest, the *seventh*; both of them relapsed the same hour. It intermitted *five* days, and after the return both were entirely freed the *seventeenth*. Many had a *crisis* the *fifth*, an intermission *seven* days, and another *crisis* the *fifth*. Others again had their crisis upon the *seventh*, an intermission *seven* days, and the last *crisis* the *third* day after the return. Some had a crisis the *seventh*, an intermission *three* days, and another *crisis* the *seventh*. Others, again, had a *crisis* the *sixth*, and an intermission *six* days; after this an attack for *three* days, then, an intermission *one* day, and the next a return and *crisis* the same day; as *Euagon* the son of *Daïtharsus*. To some it came to a *crisis* the *sixth*, intermitted *seven*, and was determined the *fourth* day after the return, as in *Aglaïdas's* daughter. The greatest number of those who were taken ill this season were thus affected; and I know of none that escaped without a relapse, according to the natural course of relapses. Neither do I know of any that miscarried, where the relapses happened in this manner; nor of any, thus affected, who had returns again. But many died the *sixth* day, among whom were *Epaminondas*, *Silenus*, and *Philiscus*, the son of *Antagoras*."[1]

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[1] "Hippocrates upon air, water, and situation, upon epidemical diseases," &c. Translated by Francis Clifton, M.D. London, 1734. P. 62.

I. "*Herophon* was seized with an *acute fever*, and had a small discharge downwards, with a *tenesmus* at the beginning, but afterwards his stools were thin, bilious, and frequent. No sleep. Black, thin urine. The fifth, betimes in the morning he grew deaf, and was worse in all respects. His *spleen* swelled, and his flanks were distended. His stools were small and black, and his head rambled. The sixth, he was delirious, sweated at night, was cold, and delirious still. The seventh, was cold outwardly, thirsty, and delirious; at night came to himself, and slept. The eighth, was feverish, but not so swelled in his *spleen*; and came perfectly to himself. A swelling appeared in the *groin* for the first time, on the same side with the *spleen*; after which a pain seized him in both his legs. He rested pretty well; his urine was well-coloured, and had a small sediment. The ninth, he sweated, and was cured. The fifth, it returned again, and immediately his *spleen* swelled. The fever was acute, and his deafness returned. Three days after this, the *spleen* and deafness grew better; his legs were uneasy, and a sweat came on in the night. The *crisis* happened the *seventeenth*, without his being delirious after the return."[2] . . . .

II. "*Meton* was taken ill of a *very acute fever*, with a heaviness and pain in his loins. The second day, he had a good discharge downwards, from drinking a pretty large quantity of water. The third, a heaviness in his head, with thin, bilious, reddish stools. The fourth, worse in all respects. A little blood from the left nostril twice; a restless night; stools as before; blackish urine, with a blackish cloud floating up and down, without any sediment. The fifth, a great deal of pure blood from the left nostril; a sweat, and a *crisis*; but after the *crisis*, want of sleep, lightheadedness, and thin blackish urine. After *bathing the head* he slept, and came to himself; had no relapse afterwards, but frequent *hæmorrhages*, even after the *crisis*."[3]

III. "*Melidia*, who lived by the *Temple of Juno*, complained of a violent pain in her head, neck, and breast; and presently after an acute fever came on. Her *menses* came down a little, with a continual pain in all those parts. The sixth, she was comatose, qualmish, chilly, and red about the cheek, with something of a delirium. The seventh, sweated; the fever intermitted; the pains remained; the fever returned again; and she slept a little. Her urine was constantly thin, but well coloured; her stools thin, bilious, acrid, very small, black and fœtid; the sediment in the urine white and smooth. She fell into a sweat, and had a perfect *crisis* the *eleventh*."[4]

IV. "*Hermocrates*, who lived by the *New Wall*, was seized with a *very acute fever*, and began to have a pain in his head and loins, with a moderate distension of the hypochondre. The tongue was burnt up from the beginning. Presently after, he grew deaf; and could get no sleep. His thirst was moderate, and his urine thick and red, without a sediment after standing. His stools were large and burnt. The fifth, thin urine, with a cloud that did not fall. At night he was lightheaded. The sixth, a *jaundice*; worse in all respects, and lightheaded still. The seventh, great restlessness. The urine thin, and like the former. The succeeding days, very little alteration. About the eleventh every thing seemed to abate. A *coma* began. The urine was thick, reddish, thin towards the bottom and subsided not. He came to himself by little and little. The fourteenth, he was neither feverish, nor sweated, but slept, and came perfectly to himself. The urine much the same. About the seventeenth, he relapsed, grew hot, and the days following had an acute fever, with thin urine. About the twentieth another *crisis*. The fever went off, but without sweating. An aversion to food lasted all the time. He came to himself, but could not speak. His tongue was dry, but without thirst. He laid *comatose*. About the twenty-fourth, grew hot again, and discharged much thin matter downwards. The days following an acute fever, with a burnt tongue. The twenty-seventh, he died. This patient was deaf all along; his urine thick and red, without a sediment, or thin and colourless with a little cloud; and he could taste nothing."[1]

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[1] "Hippocrates upon air, water, and situation, upon epidemical diseases," &c. Translated by Francis Clifton, M.D. London, 1734. P. 56.

[2] Ibid. p. 71.

[3] *Ibid.* p. 75.

[4] Ibid. p. 95.

V. "He that lived in *Dealces's* Garden, felt a heaviness in head, and a pain of the right temple a long time; and, upon an occasion given, was seized with a *violent fever*, and carried to bed. The second day a little pure blood from the left nostril, and a good stool. The urine thin and various, with a cloud suspended, almost like *ground barley and seed.* The third, an acute fever. Black, thin, frothy stools, with a livid sediment in them. He was also a little *soporose*, and bore rising up with difficulty. The sediment of the urine turned livid, and somewhat glutinous. The fourth, bilious yellow vomitings in a small quantity, and after a little resting *æruginous*, or violet. A little pure blood from the left nostril; the stools and urine as before; a sweat about the head and collar bone; the *spleen* tumefied; a pain of the same thigh; a softish distension of the right hypochondre; no sleep in the night; a little rambling. The fifth, more stools, black and frothy, with a black sediment; no sleep in the night; rambling. The sixth, black, fat, glutinous, fœtid stools; slept, and came more to himself. The seventh, a dry tongue, and thirsty; no sleep, but rambling; the urine thin, and not well coloured. The eighth, black, small, compacted stools; slept, and came to himself; and was not very thirsty. The ninth, shivered, burned, sweated, was cold, delirious, and convulsed (or distorted) in his right eye; with a dry tongue, thirst, and watching. The tenth, very little alteration. The eleventh, came to himself perfectly, lost his fever, and slept. The urine was thin about the *crisis*. The fever intermitted two days, and returned again the fourteenth. No sleep that night, but strong *deliriums*. The fifteenth, turbid urine, as when it is shook after standing; a raging fever, with strong *deliriums*, and no sleep; a pain in the knees and legs; black stools, by means of a *suppository*. The sixteenth, thin urine, with a suspended cloud. Was lightheaded. The seventeenth, early in the morning, was cold in the extreme parts, and covered up. The fever raged; a sweat came on all over, that relieved him; he came more to himself upon it, but was not free from his fever or his thirst. He also vomited bilious yellow stuff in a small quantity, and had a stool, soon after which, black thin stuff came away in a small quantity. The urine was thin, and not well coloured. The eighteenth, he did not come to himself, but was *comatose*. The nineteenth, no alteration; the urine thin. The twentieth, slept, came to himself perfectly, sweated, lost his fever and thirst, but the urine was thin. The twenty-first, rambled a little, and was a little dry; a pain attacked him in the flanks, and a continual palpitation about the navel. The twenty-fourth, a sediment in the urine, and he came perfectly to himself. The twenty-seventh, a pain in the right hip; thin urine with a sediment; and in other respects very easy. About the twenty-ninth, a pain in the right eye; the urine thin. The *fortieth*, stools of a phlegmy white nature, and pretty often; a great sweat all over, and a *perfect crisis*."[2]

Dr Henderson called attention to the occurrence of measly eruption as being a symptom insufficient to distinguish typhus from the present epidemic, as such eruptions had been stated to have occurred in fevers not true typhus; he had not seen it, but knew that it had occurred in this epidemic; also in plague, remittent, and even intermittent fevers. He also observed, that the eruption of typhus has nothing specific in its appearance, varies very much in different cases in the size of the spots, their shape and colour, and is of no consequence in diagnosis without the other symptoms. He had seen the measly eruption in typhoid pneumonia.

Dr Alison. Say rather in contagious typhus complicated with pneumonia.

Dr Henderson. That is matter of opinion.

Drs Alison and Graham stated their conviction that the true measly-looking eruption is pathognomonic of true typhus.

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[1] "Hippocrates upon air, water, and situation, upon epidemical diseases," &c. Translated by Francis Clifton, M.D. London, 1734. P. 80.

[2] Ibid. p. 81.

Dr Christison believed, with Dr Henderson, that such eruptions did occur in other fevers than the true typhus.

Dr Cormack said, that he had at present under treatment two cases of continued fever, both of which followed, (under his own eye in the Infirmary), after an interval of a few days, second attacks of the prevailing epidemic. One of these patients had an ill-marked crisis upon the 21st day, and the other showed symptoms of amendment, unaccompanied by any critical evacuation, about the 13th day of the fever. In neither of these cases was there any exanthematous eruption, although it was very carefully looked for every day. Notwithstanding of the absence of this eruption, he regarded the cases as most decidedly characterised by the symptoms of typhus, and not by those of the prevailing epidemic. The observation of such facts by himself and others, the tracing of many of the cases at present occurring of continued fever to the same foci of contagion, as had been done by Dr Henderson, strongly inclined him to adopt the doctrine, that the present fever, and the ordinary typhus of Edinburgh, are produced by two distinct morbid poisons. There was one difficulty, however, which he could not quite get over, and that was, the occasional appearance of the typhus exanthema, in some unequivocal cases of the prevailing fever. That such instances did occur was beyond all cavil. Now, if the doctrine of Dr Alison and others be correct, that the typhus exanthematic eruption proclaims the fever in which it appears to be typhus, all the evidence adduced to prove the distinctive nature of the diseases must at once be declared insufficient. If, again, the opinion of Drs Henderson and Christison, that the typhus exanthema appears in diseases which are not typhus fever, the doctrine advocated by Dr Henderson and others, that the two fevers are essentially different, could hardly be disputed.

In a remark made by Dr Henderson, that the jaundice was not a dangerous symptom, Dr C. agreed, if received with this explanation,—that this is when it occurs about the 5th or 7th day, immediately before or simultaneously with the crisis Occurring at an earlier period of any attack of the fever, it always proclaims danger, and is then uniformly associated with the most malignant and intense symptoms. Petechiæ, delirium, or in fact, the worst symptoms which can occur in the fever, must be looked upon as much less serious, when they occur at or before the expected crisis.

In reference to the abortions, to which allusion had been made, Dr C. stated, that they generally occurred in the crisis of the first attack, or in the onset of the second—sometimes they did not happen till the crisis of the second, or the onset of a third attack. He had not seen any patient who had escaped aborting, but knew that one or two such cases had been observed.

Before concluding the remarks, which had been suggested by the observations of previous speakers, he communicated part of a statistical inquiry in which he was at present engaged in the Infirmary, with a view to establish correctly the periods of the attacks subsequent to the first, and of the crisis of the first attack. He considered the second attacks as truly parts of the disease, and that the term *relapse* was incorrect, as had been remarked by Dr Christison.

Professor Graham stated his conviction, that "*relapses*" were not so common as in the earlier part of the epidemic. He was surprised to hear Dr Cormack and others say that they invariably, or almost invariably occurred.

Peculiar Fluid of Ascites.—Dr Gardner mentioned a case of ascites in which he had performed paracentesis; on withdrawing the trocar, no fluid escaped from the canula. He removed some flocculi by a bent probe, but being unable to procure any evacuation in this way, he had applied a syringe, and succeeded in withdrawing by suction about two pounds of fluid, which he exhibited. The matter appeared to consist of numerous transparent flocculi in a clear matter, having the consistence of soft jelly.

The following gentlemen were ballotted for, and duly admitted ordinary members:—Dr Coldstream, Dr Johnston, Dr Tait, Mr D. Kerr, and Dr Charles Bell.

DR MARSHALL HALL ON THE MECHANISM OF VOMITING, IN A LETTER TO DR ANDERSON.

14, Manchester Square, 15th Jan. 1844.

Dear Sir,—I beg to thank you for your kind and polite present of a copy of your interesting paper on the *Mechanism of Vomiting*, which I received this morning. There are *three* paragraphs in it, on which I beg to make a few remarks, which you will probably do me the favour to communicate to the excellent Journal in which your own appeared.

The first of these occurs page 8—"The opinion that the muscular fibres of the diaphragm are actively engaged in vomiting, seems to be supported by two cases related by Boisseau, in which that muscle was torn by violent vomitive efforts. It would, I apprehend, be difficult to explain this occurrence by a reference to Dr Hall's theory; for the mere fact of the diaphragm's suffering compression in common with the viscera of the chest and belly, many of which possess weaker powers of resistance, would not account for its laceration."

My view of this event is, that it occurs in the final, actual, full, and violent expiration which uniformly takes place at the close of the act of vomiting. The larynx is opened, the air in the thorax escapes; the contraction of the abdominal muscles proceeds, and all the force of that contraction is applied to the diaphragm, and carried upwards to the uttermost. It is the same force, the same violent expiration, which so beneficially empties the bronchial tubes of their redundant mucus in certain cases of bronchitis, in which emetics are prescribed.

The second paragraph to which I have alluded, occurs at page 9—"Violent efforts of vomiting were immediately induced, causing the expulsion of a considerable quantity of milk; and, at the same moment,—that is, during the effort by which the milk was discharged,—the diaphragm became *tense and rigid*, and *descended* towards the abdomen." And, "On introducing two fingers into the opening which I had now made into the abdomen, I felt the diaphragm to be strongly *contracted* during each effort of vomiting." That the diaphragm "descended," and became "tense and rigid," during the act of vomiting may be admitted; but that it "strongly contracted," is, I think, more than the mere contact of the fingers could teach us. The account is not, it appears, limited to a detail of the fact, but involves a statement of the mode or *rationale* of that fact. My view of the case is this: at the commencement of each act of vomiting, which is an act of the muscles of expiration, the contraction of the intercostal muscles carries the diaphragm forcibly downwards, part of the parietes of the abdomen yielding somewhat to this forcible pressure. At this moment it may be found to have "descended," and to be "tense and rigid."

I have only to add, that if the diaphragm does contract during the act of vomiting, it *must*, in exactly an equal degree, *counteract* that process, which is one of expiration, whilst the diaphragm is an organ of inspiration. Such contraction is not usual in nature's operations.

The last paragraph on which I beg to remark occurs at p. 11. It relates to the fact of the ingurgitation of air into the stomach during the state of nausea which precedes the act of vomiting. You observe:—"Dr Hall does not allow the diaphragm any share in the production of *this* phenomenon." Had I indeed made this assertion, I should certainly have committed a grave error. But you have only partly quoted my statement, of which I must here adduce the remainder. It is this:—"It is not improbable, too, that in some instances of vomiting, in which the action of the abdominal muscles was subtracted, a similar effort of inspiration has drawn substances from the stomach into the œsophagus, which has eventually expelled them by an inverted action." It is of *these two* actions that I have said, "Neither of these phenomena could result from any action of the *diaphragm*;" and not of the ingurgitation of air into the œsophagus during the state of nausea, which is, as I imagine, effected by an act of inspiration, in which the diaphragm really does take a part.

I should have been glad if you had noticed the subject of vomiting from the œsophagus, and discussed that of vomiting from the stomach, when this organ exists, (in the case of hernia,) within the cavity of the thorax at greater length; for the cases of what may be designated *hyper-diaphragmatic* vomiting, appear to me greatly to elucidate this singular act of ejection in general. I am, dear Sir, yours very truly, MARSHALL HALL.

To DAVID ANDERSON, M.D., &c.

OVARIOTOMY, AND MR WALNE.

[We think it best to let Mr Walne speak for himself. When he reads his letter in print, we hope that he will see that it is not a proper one, and "act accordingly." *Are we in the habit of making "intentional misstatements?" Did we ever make one?*]

"GUILFORD STREET, RUSSELL SQUARE,
LONDON, Jan. 24, 1844.

"SIR,—As I presume you cannot wish that your Journal should be made a medium for the propagation of erroneous statements, I will thank you to correct an expression which occurs in that part of the article on Ovariotomy, which passes as a summary of my third case.

"'An incision,' writes the reviewer, 'was made fourteen inches in length, and extending from ensiform cartilage to pubes.' My expression is, 'Of the nineteen inches and a fraction, the distance from the ensiform cartilage to pubes, fourteen were occupied by this extended incision.' I am not so sanguine as to suppose that the reviewer himself could comprehend the difference; but I believe that most plain practical men will. Unless this correction be made, I shall presume that the misstatement is intentional, and that you approve of it; and shall act accordingly.—I am, Sir, your obedient servant,

"D. HENRY WALNE."

" DR CORMACK.

BOOKS RECEIVED.

(*Continued from page* 88 *of last Number.*)

17. Mémoires de la Société Médicale d'Observation de Paris. [*Tome deuxième.*] 8vo, pp. 596. Paris: 1844.

This volume contains some important Essays, of which we propose to give our readers some account. The names of the authors are LOUIS, VALLEIX, DUCREST, and FAUVEL.

18. Traité Complet de l'Anatomie, de la Physiologie, et de la Pathologie, du Système Nerveux Cérébro-Spinal. Par M. Foville, Médecin en chef de la Maison Royale de Charenton, &c. [I^{re} *Partie.—Anatomie.*]

When we receive the second part, we will speak of this work, which promises well. The Plates are very fine.

19. Traité du Begaiement, et des moyens de la guérir. Par A. Becquerel, Docteur en Médecine, &c. Ouvrage contenant l'Exposé de la Méthode découverte, par M. Jourdant, pour guérir ce vice de la parole. 8vo, *pp. 139.* Paris: 1843.

From a cursory inspection of this work, we think that it is likely to prove interesting on perusal.

20. Report on Minute of Cleaning Committee of 21st October, and Minute of General Board of Commissioners of Police, of 10th November 1843. By Alexander Ramsay, Inspector of Lighting and Cleaning. 8vo, pp. 24. Edinburgh: 1843.

A most important pamphlet, and highly creditable to its author.

21. Fourth Annual Report of the Crichton Royal Institution for Lunatics, Dumfries, 11th November 1843.

Interesting and able, as Dr Browne's reports always are.

22. On the Circulation of the Blood in Acardiac Fœtuses. (*With a Woodcut.*) Being a Reply to a Paper by Dr Marshall Hall on this subject. By John Houston, M.D., M.R.S.A., Surgeon to the City of Dublin Hospital; Lecturer on Surgery at the

School of Medicine, Park Street, &c. 8vo, pp. 24. Dublin: 1844.

We will give an abstract of this pamphlet.

23. Medicines, their Uses and Mode of Administration; including a Complete Conspectus of the three British Pharmacopœias, an Account of all the New Remedies, and an Appendix of Formulæ. By J. Moore Neligan, M.D., Physician to Jervis Street Hospital, and Lecturer on Materia Medica and Therapeutics in the Dublin School of Medicine. 8vo, pp. 432. Dublin: 1844.

A most useful compendium for the practitioner.

24. Anatomical Manipulation; or the Methods of pursuing Practical Investigations in Comparative Anatomy and Physiology; also an Introduction to the Use of the Microscope. By Alfred Tuck, M.R.C.S.; and Arthur Henfrey, A.L.S., M. Mic. S. (*With illustrative diagrams.*) 12mo, pp. 415. London: 1844.

25. On the Nature and Treatment of Tic Douloureux, Sciatica, and other Neuralgic Disorders. By Henry Hunt, M.D., M.R.C. Physicians, London; Physician to the Royal Metropolitan Hospital for Children, &c. 8vo, pp. 191. London: 1844.

26. Glossology: or the Additional Means of Diagnosis of Disease to be derived from Indications and Appearances of the Tongue. By Benjamin Ridge, M.D., M.R.C.S.L., &c. 8vo, pp. 84. (*With Plates.*) London: 1844.

When we have tested the accuracy of some of Dr Ridge's observations, we will speak of his book, which seems to be of importance.

27. Diseases of the Lungs from Mechanical Causes; and Inquiries into the Condition of the Artizans exposed to the Inhalation of Dust. By G. C. Holland, Esq., M.D., &c. 8vo, pp. 190. London: 1843.

Reprinted from the Monthly Journal. Most valuable.

ERRATA IN LAST NUMBER.

Page 7, line 24, for "but the efforts," read "but as the efforts."
„ 9, „ 5, for "access," read "egress."
„ 10, „ 21, for "*intremuit,*" read "*intumuit.*"
„ 10, „ 41, for "organs," read "organ."
„ 11, „ 33, for "painful," read "powerful."

The sentence beginning "Now Dr Marshall Hall has," &c. (*at fifth line from bottom of page* 44), ought to read thus: "Now Dr Marshall Hall has shown that the muscular irritability of paralysed parts, still in connection with the spinal marrow, is increased above the ordinary standard," &c.

TO READERS AND SUBSCRIBERS.

Were our friends to bestir themselves, our circulation might be greatly extended.

This is the cheapest and most comprehensive Medical Journal published in Great Britain. It may be had through any bookseller in town or country. The price of each Number is 1s. 6d.; or 16s. for the volume of 1844, (of which this is the second Number), *if paid in advance.* The *credit price* for the current year is 18s.

NOTICES TO CORRESPONDENTS.

For the present Number, we had prepared abstracts of all the published papers on the Fever at present prevailing in Edinburgh, Glasgow, and other towns; but from the space which they would have occupied, we have thought it better to defer part of them for another Number. Though in some of the accounts there are inaccuracies, and in all of them a sameness, it has appeared proper to arrange them together in this Journal, for the satisfaction of future as well as of present inquirers.

Several articles in type are necessarily deferred.

We have received papers from PROFESSOR SIMPSON, DRS LAWRIE and KING, of Glasgow, MR WILLS of Cumnock, DR CHISHOLM of Inverness, and DR MILLER, jun., of Hamilton.

For the arrears into which we have fallen with our Periscope, we fear that it will not be possible to give place to all of these original articles in our next; the more especially, as the Epidemic Fever, and Mrs Gilmour's trial, have swelled this Number beyond proper bounds.

THE
LONDON AND EDINBURGH
MONTHLY JOURNAL
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No. XXXIX.] MARCH. [No. III. of 1844.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Article I.—*Case of Enteritis, Simulating Pregnancy, and Labour at the Full Time.* *By* M. Barbieri, *Surgeon, Limekilns, Fifeshire.*

The following case of enteritis, simulating pregnancy, and labour at the full time, by proving the occasional extreme difficulty of the diagnosis of pregnancy, besides forming a suitable counterpart to three cases in the January Number of this Journal for 1842, p. 71, has seemed of sufficient importance to warrant its insertion. Under this impression, I now submit it, with some remarks and critical reflections bearing upon the medico-legal question of concealed pregnancy.

Mrs M— W—, aged 32, rather stout, who had enjoyed good health for the last fifteen years, the mother of two living children born at the full time, and of one still-born at the eighth month, sent me a hurried message to attend her in her fourth accouchment, at 8 p.m. of the 16th of December 1840. On entering the lady's bed-room, I found her suffering severe and repeated uterine pains, such as occur at the end of the first stage of natural labour, and recurring, at an average, every five minutes; they commenced in the back, and stretched round the pelvis, and down to the anterior part of the thighs. From answers to various questions put, the following statement is drawn up:—The catamenia had been absent for nine months and two days; she quickened at the end of four months and a half; the motion of the fœtus had become progressively stronger every month; she had experienced morning sickness, vomiting, heart-burn, irresistible longings, aversion to wine and tea, dysuria, spots and ephiledes on the face and skin, frightful dreams, cramp and pain in the legs for the last fortnight, hæmorrhoids, varicose veins, and anasarca of the legs for the last two months. All these, with the exception of anasarca, cramp, and the aversion to wine, had occurred in her three former pregnancies. She directed my attention to the size of her abdomen, which was that of a woman at the full period of gestation; besides being hard, the uterine enlargement felt prominent and distinctly circumscribed; the entire abdomen bore the most minute and firm pressure at any point, without her experiencing the least pain or inconvenience. Her breasts, naturally rather small, were distended with an abundant secretion of good rich-like milk, such as to render it necessary to apply breast-glasses, which were emptied every quarter of an hour. This secretion of milk had occurred for the last two months and a half, and had never taken place in any previous pregnancy. The silvery lines referred to by Dr Montgomery, were moderately visible. The areola around the nipple was strongly marked; the nipple was turgid and prominent; about 14 of the glandular follicles immediately around the base of the nipple were sufficiently conspicuous to indicate a former pregnancy, but by no means such as to justify the conclusion of its present existence. She, moreover, told me that the liquor amnii had been discharged about half an hour before my arrival, and that she had a slight sanguineous discharge for the last three days, which caused her some anxiety, as it had rather an offensive odour. Before proceeding further, I may state, that her nausea and vomiting had left her for the last three months; her pulse was 130, full, hard, and incompressible; her tongue was clean and moist, and the bowels were open.

Notwithstanding the above formidable array of the signs of pregnancy, I felt dissatisfied at the absence of the glandular follicles at the base of the nipple, having always found them very prominent in all her former pregnancies; besides that, my educated ear (having been nearly thirty years in active practice,) was not reconciled to her present pains; I therefore hinted my doubts of the existence of her condition, at which she felt very indignant, referring me, *first*, To all the signs individually, laying great weight on the absence of the catamenia for nine months, stating that the menstrual secretion had previously always been healthy, as to time, quantity, and quality; *second*, To the size and hardness of her abdomen; *third*, To the quantity of her milk; *fourth*, To the quickening and motion for the past four months and a half; *fifth*, To her previous experience of pregnancy; and, *sixth*, To the impossibility of her reckoning being wrong, owing to the absence of her husband during the entire period. About this time, I was hastily called away to visit a sailor who had received an accident in the neighbourhood, for which reason I gave her two grains of opium, and four of calomel, and left her for two hours. On my return, I found her labouring under powerful expulsive pains, such, indeed, as nearly led me to alter my opinion of the case. The lady herself declared that I would not be detained above two hours. But as it has often happened that females and their medical attendants have expected delivery for days, when there was no pregnancy (Ryan, Hamilton, Blundell, &c.), I proceeded to examine her per vaginam.

The external parts were greatly relaxed, and the vagina so much dilated as easily to admit my closed hand, and from it a sanguineous discharge issued, whose odour and external characters could not be distinguished from those of the ordinary lochia, unless, perhaps, in being somewhat more offensive; but we all know, that this smell, like that of sweat, is subject to considerable variety. The uterus was in an unimpregnated and healthy state, as regarded its body, cervix, and orifice; the os uteri retained distinctly its transverse orifice, with well defined and firm margins. I felt at a loss to account for the so-called discharge of the liquor amnii already referred to. It could not proceed from hydatids, cauliflower discharge, nor those splashes of urine which sometimes come away from pregnant women, as noticed by C. M. Clarke, owing to the state of the uterus. The catheter was therefore introduced, and upwards of two pints of high-coloured transparent urine drawn off, divided into two portions, and reserved for analysis.

As the bowels had been opened by castor-oil a few hours before my arrival, I proceeded to examine the abdomen under the chemise. In addition to what has already been stated, I found a pale-brownish stripe, nearly an eighth of an inch in breadth, in the mesial line, running from the umbilicus to the ensiform cartilage, but which certainly did not correspond to the description or opinion given of it by Mr Turner. The effects of percussion were tried, as advised by Andrieux and Piorry, but having no pretension to the same extraordinary tact possessed by these eminent men, no dependence was placed on its results. A marked degree of dulness and sonorous sound was heard from one to two inches of each other, in every direction, whether anterior or lateral. Owing to the state of the uterus, auscultation was not had recourse to, knowing the uncertainty of its results in real pregnancy in the most skilful hands, as may be observed in the writings of Ryan, Montgomery, Nægelè, and Velpeau, notwithstanding the opinion in favour of it by Laennec, Mayer, De Leus, Kennedy, Fergusson, and Elliotson; besides, "the results of auscultation exist, in some degree, when the fœtus is dead, and also in extra-uterine gestation." (Ryan.) On examining the dorsal region, I found that firm pressure could not be endured without her wincing at every attempt. Perplexing as the case to me was, I now arrived at the conclusion, either that it was inflammation and great enlargement of the kidneys, or inflammation of the posterior aspect of the intestines; but how could the immense indurated abdominal tumour be accounted for, more especially as the bowels were represented always to have been open?

Aware that pregnancy is simulated by so many diseases, and *vice versâ*, and that a knowledge of these ought always to be at our command, otherwise that lamentable mistakes may be made, prejudicial to the life or character of the female, and not less injurious to professional reputation, by giving rise to dangerous errors in practice, as well as causing false inferences to be drawn as to the result; and as errors of this kind are not visionary, but have been of frequent occurrence, even to the most eminent in the profession, as Harvey, Cullen, Hunter, Smellie, Denman, and others, I reviewed the causes of abdominal enlargement, and found them to be, diseased liver or spleen, accumulations of fat, or fæces, tympanitis, ascites, distended bladder, suppressed catamenia, dysmenorrhœa, moles, hydatids, hydrometra, hydroamnios, abdominal or uterine tumours, and enlargement of the Fallopian tubes.

From the state of the uterus, and the absence of the glandular follicles around the base of the nipple, several of these causes were quickly dismissed from the mind; while the total want of correspondence in the symptoms of some others, assisted in the diagnosis. On the other hand, the list still presented a sufficient number of diseases to render their detection a matter of great embarrassment, many of them having frequently been known to simulate all the principal signs of pregnancy, in illustration of which, the following evidence will suffice:—

"Enlargement of the ovary may either simulate pregnancy, or co-exist with it;" along with enlargement of the mammæ, secretion of milk, and the dark areola round the nipple, motion has been felt, with other signs, which are more or less noticed by Gooch, Merriman, Montgomery, Ryan, Mackintosh, Burns, Copland, Good, Vater, M. Robert, and C. L. Schmalz. In Dr Ryan's case, "the disease became developed in eight months, the woman had dead children, the catamenia were suppressed, and she supposed herself pregnant. The diagnosis was difficult, the uterus was undeveloped, the legs anasarcous, the abdomen larger than at the end of gestation, and the respiration very difficult." In one case, the ovarium was so prodigiously enlarged, that on the *post-mortem* examination, it was found to weigh fifty pounds. (Corvisart.)[1] We should also keep in recollection the celebrated case of the Demoiselle Famin, published by Valentin in 1768. Extra-uterine pregnancy has often "mimicked the entire process of utero-gestation." (Good, Ryan, Burns, Davis, Capuron, and Duverney.) In Saxtorph's case, the uterus was not enlarged at the end of the ninth month; and in Dr Ramsbotham's case, "the uterus itself was not the least enlarged" in the seventh month. "Ascites has been mistaken for pregnancy, and *vice versâ*." (Ryan and others.) More frequently, however, pregnancy has been treated for dropsy. (Foderè, Mauriceau, Capuron, Avenzoar, Marsa, Gooch, and Beck.) "Suspicion may arise from the catamenia being obstructed by an imperforated hymen." "Cases of this description resemble those of true pregnancy so much, that a correct diagnosis is of great importance to the credit of the practitioner, and the character of the patient." The quantity of the accumulated fluid has been from four to ten pounds. (Smellie, Denman, Montgomery, Davis, Macaulay, Dewees, Chamberlain, Sherwin, Eason, Frye, Benevoli, F. Hilden, Fab. Abaq. Wier, Kæyner, Benevenius, Bardy, Frank, and Boivin.) "The circumstances attending dysmenorrhœa have sometimes given rise to a suspicion of pregnancy and early abortion, because the female may have pains resembling those of labour, accompanied by red discharge, and followed by the expulsion of a substance somewhat resembling the decidua." (Montgomery, Denman, Beatty, Mackintosh, Locock, Burns, Davis, Good, Friend, Royer-Collard, and Chaussier.) "Sometimes the membrane expelled has an exact resemblance to the membrana decidua." (Denman, Hunter, Baillie, Beatty, Conquest, and Morgagni.) "The existence of hydatids in utero is always accompanied by the ordinary symptoms of pregnancy." (Montgomery, Denman, Burns, Davis, C. M. Clarke, Ryan, Gardien, and Desormeaux.) "Moles give rise to the same phenomena as true pregnancy." (Baudelocque, Voigtel, Velpeau, Smith, Ruysch, Rust, Ryan, Burns, Davis, and Good.) "In some instances, the symptoms of a case of polypus are very perplexing." (Mayer, Burns, Sam. Cooper, Davis, Espagnet,[1] Vater,[2] Mackintosh, and R. Lee.) In tympanitis uteri, "the uterus is sometimes observed to counterfeit the phenomena of pregnancy; but ultimately, and when the destined period arrived for its expulsion or escape, instead of the legitimate fruit of conception, only a spurious vapour is produced." (Davis, Gooch, Hooper, Baillie, Delamotte, Dugès, Boivin, Chomel, Astruc, and Ambrose Stegmann.)

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[1] Jour. de Méd., vol. xviii. p. 360.

Induration and enlargement of the uterus has occasionally been such, as to weigh in one case 10 pounds, (Ryan), and in another 50 pounds (Mackintosh). Dropsy of the unimpregnated uterus has accumulated to the prodigious extent of 50, 60, or even 100 pints of water. (Lieutaud,[3] Hoffman, Geoffroy, Astruc, Davis, Turner, Burns, Copland, and A. T. Thomson). "The bladder may be sometimes so dilated as to contain two gallons, and cause a resemblance to the last stage of pregnancy." (Ryan). A great enlargement of the liver has been mistaken for disease of the ovary. (Davis). Diseases of the Fallopian tubes have frequently proved very perplexing. (Andral, De Haen, Frank, Boivin, Dugès, Portal, and R. Lee). In dropsy of the Fallopian tubes, the cyst has been found to contain as much as 110 pounds of fluid (by Munnik), 140 pounds (by Harder), and 150 pounds (by Cypriani).

Having reviewed the above causes, as far as recollection served me, I now considered the present case to be one of chronic inflammation that had assumed the acute form; and that it demanded the most immediate and energetic treatment, whatever might be its situation, or the cause of the induration and enlargement: and I trusted that the lancet would open the eyes of ignorance. Having communicated my decided opinion, and prepared the lady for the measures to be adopted, which were heard with profound astonishment, I proceeded without further delay.

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[1] Mém. de l'Acad. de Chir. tom. iii. p. 531.

[2] Haller, Disp. Chir. tom. iii. p. 621.

[3] Tom. i. p. 319, and p. 333.

In reference to the treatment, my circumscribed limits confine me to a general outline alone. The pulse being strong and frequent, 64 ounces of blood were abstracted from a large orifice, in the erect posture, without inducing the least approach to syncope. Its effects on the pain and expulsive action were great and immediate. So far the doctrine inculcated by Dr Marshall Hall, Mr Wardrop, and Mr Barlow was illustrated,—that "little blood will flow if the frame can bear to lose but little; much will escape, if a large depletion be called for by the constitution." Moreover, I was entirely regulated by the effects of the blood-letting, and not by its quantity. In about ten minutes, a state of the most profound syncope and collapse followed, which continued nearly a quarter of an hour, accompanied by an incredible discharge of liquid feces, amounting to at least four large chamber urinals, with an immense quantity of flatus, more noisy than offensive. Alarming as the case now was, I determined in trusting to her age and former constitutional powers. On recovering from this state, three grains of opium, and eight of calomel, were administered, to prevent reaction. On examining the abdomen, the enlargement and induration had disappeared; and all the vertebræ could be easily touched through the parietes of the abdomen. She was now necessarily left for eight hours, owing to an obstetric engagement. At my second visit, I found she had enjoyed six hours' comfortable sleep and freedom from pain; that the pain had returned during the last two hours, but was, for the first time, confined to the abdomen, where the slightest pressure could not be endured, while the back was free from it. The blood was now examined, and found to have a buffy coat of more than two lines in thickness, greatly cupped, firm, and elastic; the coagulum was very dense, and floating in a small quantity of serum. One portion of her urine was then submitted to the action of heat at the temperature of 170°, and coagulated rapidly, showing distinctly the presence of a large quantity of albumen. The case appearing one of enteritis, complicated perhaps with Bright's disease of the kidney, she was immediately bled to the extent of 32 ounces, in the erect posture, but without producing any of the former results. This was followed up by the application of 40 leeches to the ileo-cœcal region, and the hip-bath when they fell off; a blister was applied over the entire abdomen, to be dressed night and morning with the *ungt. hydr. fort.*; and it was resolved to give her two grains of calomel, with a fourth of a grain of opium, every four hours. On the third day, the inflammation seemed to have been subdued. On the fourth, I had acute gastritis to contend with, and that alone; and notwithstanding the most energetic local treatment, and the immediate suspension of the calomel, she experienced no relief, except from the unceasing use of small portions of ice; from which, while the supply continued, she remained free from the burning pain, and other uneasiness. This, however, failed on the 21st; and after enduring several hours' suffering, she died on the 22d day of the acute attack.

Morbid appearances.—On the abdomen being opened, there was found increased vascularity and thickening of the peritoneum; effusion of coagulable lymph, in the form of flocculi, with about four ounces of pus into the peritoneal cavity. The stomach presented great vascularity; two patches, the size of a half-crown piece, of softening of its coats, near the pylorus; and nearly the whole of the small curvature was more or less deeply ulcerated. Great vascularity of the duodenum, ileum, and rectum; a few very small patches of softening were seen on the coats of the colon; a number of circumscribed superficial follicular ulcerations, with one small perforating ulcer, were found in the last twelve inches of ileum.

Here we have increased vascularity, ulceration, coagulable lymph, pus, and softening, as the results of inflammation. But we are told by Andral that vascularity alone is too often taken for an unequivocal indication of previous inflammation. Again, Bichat and Broussais maintain that inflammatory injection may have existed during life, and yet wholly disappear after death. Dr Stokes states, that even ulceration, perhaps the most certain proof of all, may occur under circumstances in which it is impossible to trace it to an inflammatory origin. And it is well known that the same remark applies to the softening of the coats by the gastric juice. These facts show, that " no morbid appearance whatever, taken singly, is a certain proof of the occurrence of inflammation;" but when combined they are irresistible.

The kidneys were in every respect healthy, as also the uterus, and all the other abdominal viscera.

We now come to the questions, Was the case one of inflammation? Was the quantity of blood abstracted too large? The state of the pulse, of the blood, the increased pain on pressure, the quantity of blood borne in a full stream for ten minutes, the relief resulting, the duration of the disease, the age of the lady, and the morbid appearances, sufficiently answer for themselves. The state of the blood, I admit, is of itself no argument:—We know from Ratier, Belhomme, and Sir A. Cooper, that the blood in health may sometimes be buffed and cupped; Dr Crawford says that the same takes place in pregnancy, and in such as have been in the habit of being bled; and in influenza, as observed by Dr Graves, " it is generally buffed, even where there is scarcely any febrile excitement in the system, and thus affords a very fallacious indication."

We know that the presence or absence of pain, in the abdominal or iliac regions, even with the assistance of light or firm pressure, is no evidence of the existence of inflammation, as has been well pointed out by Andral and Elliotson.

The possibility of the case being one of intestinal irritation, abdominal neuralgia from uterine irritation, or morbid sensibility, could not for a moment be maintained:—first, because nearly all their symptoms were absent; and secondly, because any of them would have been aggravated by bleeding.

With regard to the kidneys, had I been guided by the urine, we ought to have had Bright's disease. The result showed otherwise. Dr Graves distinctly states, that we may have albuminous urine without Bright's kidney, and on the other hand, that we may have Bright's kidney without albuminous urine. Again, he observes, "that in various cases which came under treatment in the hospital, he had shown that this state of the urine may depend on mere functional disease of the kidney." In my case, this fact was important in a practical point of view. Dr Bright lays down the doctrine, that in cases of dropsy, the presence of albumen in the urine ought to deter us from the use of mercury. Now, Dr Graves observes, "I have treated several such cases successfully with mercury."

Lastly,—notwithstanding the deplorable ravages committed on the patient's organs of digestion, the tongue continued, throughout the whole of her illness, clean and moist. This illustrates the justness of a remark made by Andral and Dr Graves, that some persons are too hasty in drawing inferences from the state of the tongue as to the existence of affections of the digestive organs, a statement which applies especially to the late Dr Armstrong, and some of our best writers.

To revert to the second portion of the urine, which was examined on the third day: it was found to have a small crust on its surface, formed of small, white, flaky, grumous matter, part of which had fallen to the bottom of the vessel, and resembled caseine. The precipitation was more abundantly procured by adding a few drops of alcohol to the urine.

The presence of a particular principle in the urine of pregnant women, resembling caseine, has more or less engaged the attention of the profession since 1486, when Savonarolo wrote on it. Some, as M. Nauche, have had the most perfect faith in this sign. Of the moderns, Foderè, Mongomery, Golding Bird, Stark, Griffith, Lubanski, Turchetti, and Cenni, have written on the subject, and admitted its importance.

By Bird, it was always found in the urine of pregnant women, with the exception of some who had been labouring under inflammatory diseases. By Turchetti, it was found in the urine of non-pregnant women, as well as in those that were pregnant; it existed in women labouring under inflammatory complaints, as well as in those of good health. By Cenni, it was found in the urine of non-pregnant as well as of pregnant women; and also in that of men.

From the above few observations, we find how equivocal a sign of pregnancy the urine must be. We have in these likewise an explanation of the existence of caseine in the case of Mrs W——; of which, from its very embarrassing appearance at first, I determinto probe every available test.

The fatal termination of the case suggested the following retrospective view of the cause of the remaining anomalous signs and sympathies already adverted to:—

1. *Catamenia.*—"Neither the absence nor the presence of the catamenia can be made a means of diagnosis, or considered as evidence that a woman is or is not with child, without leading us into absolute error." (Montgomery).

"As an increase of bulk, together with many of the other symptoms of gestation, may proceed from suppression of the menses, we cannot positively, from those signs, pronounce a woman to be with child." (Burns).

We should bear in recollection the occasional cessation of menstruation at the early age of 25, (Haller, Dewees, and Velpeau); others before the age of 30, (Locock and Dewees): frequently at the 35th year, (Ryan and Davis); and that it afterwards simulates pregnancy, (Locock).

A suppression of the menses may happen from a variety of other causes altogether unconnected with pregnancy, such as different forms of disease; exposure to cold, to hardships, or to mental emotion; change of life in consequence of marriage; functional weakness of the uterus; hydatids; moles; accumulation of menstrual fluid in the uterus; polypus uteri; tympanitis uteri; various uterine tumours; sometimes in ovarian disease; imperforate and cribriform hymen; extra-uterine pregnancy; chlorosis; fevers, &c.

Conception has taken place previous to menstruation, (Morgagni, Foderè, Desormeaux, Mauriceau, Frank, Capuron, Montgomery, Locock, Ryan, Low, and Davis).

Menstruation has occurred during pregnancy, (Mauriceau, Capuron, Foderè, Belloc, Deventer, Baudelocque, Gardien, Desormeaux, Haller, Heberden, Hossack, Francis, Dewees, Perfect, Ryan, Mayo, Gooch, Montgomery, Locock, and Beck). On the other hand, this discharge was not held to be the menstrual fluid, by Van Swieten, Hoffman, Frank, Sims, Denman, Davis, and John Clarke.

The occasional occurrence of the catamenia during lactation is admitted by Denman, Locock, Montgomery, Davis, Robertson, and Ryan.

2. *Areola.*—The areola was held to be a more convincing proof of pregnancy than the presence of the hymen, by Hunter. Smellie and Gooch had the most perfect faith in this sign. "Pregnancy may exist and the areola remain deficient, and sometimes absent," (Montgomery). "In other subjects, the areola has presented a deepish tinge in the absenee of pregnancy, and even in persons who

had not been pregnant at any former period," (Davis). "Swarthy women have naturally, in the virgin state, a mahogany-coloured areola," (Hamilton). We have already seen it strongly marked in the case under consideration, though it was nearly absent in her three former pregnancies.

The dark areola has been seen as late as the time of labour, without the prominence of the glandular follicles; but their development has never been seen without the concurrence of pregnancy. Their absence, therefore, is no proof against the existence of pregnancy; though their presence is a convincing proof of previous conception. We must be cautious before the period at which the characters are in general developed and perfected, and which will be between the 3d and 4th month, (Montgomery).

"If a woman has been pregnant before, and particularly if she suckled, or is now nursing, it may greatly embarrass our investigation," (Montgomery).

Our opinion may be required of a woman, who has perhaps very recently miscarried, and whose breasts may exhibit all the true characters of the areola, combined with several other circumstances really indicating a state of pregnancy. In such a case, we must use great caution, although really correct, (Montgomery).

Before passing an opinion in any case, I would earnestly entreat the practitioner to consult the account of the true characters of the areola, as given by Dr Montgomery, in the *Cyc. of Pract. Med.*, vol. iii. p. 473, and in his work on the *Signs and Symptoms of Pregnancy*.

The dark areola has been found round the nipple, with enlargement and tenderness of the mammæ, in cases of ovarian dropsy, by Mackintosh and Copland.

3. *Milk.*—Milk may be secreted by morbid causes capable of distending the cavity of the uterus, and thereby exciting the sympathetic changes in the breasts, as hydatids, (Denman, Montgomery, Davis, Burns, and Male); moles, (Davis and others). In moles "the breasts will be flaccid," (Ryan, Mason Good, and Sam. Cooper); also in polypus uteri, (Mayer and Moyle). At page 419 of this Journal for 1841 will be found an interesting case of polypus uteri, by Mr Moyle, in which "the third day after her riddance of the tumour, she said that her milk had risen, and that her breasts were very painful; it is true they were much distended, and that the secretion of milk was abundant." In ovarian dropsy, (Vater, M. Robert, Burns, and Carl. Ludwig Schmalz); in physometra and hydrometra, (Frank); and in spurious pregnancy, (Gooch).

The breasts often secrete milk at various periods of pregnancy, (Ryan, Burns, Montgomery, Foderè, and Belloc.) In one instance as much as a pint and a half was daily poured out in the 5th month, (Savages). In the case of a young woman, with her second child, I have seen more than two pints daily poured out during the last three months; and what is singular, the secretion ceased at the end of the first week after delivery, without any assignable cause.

Milk has been found in the breasts at ages antecedent to puberty, (Cruger, Lanzoni, Baudelocque, Belloc, Foderè, Magendie, Beck, and Locock). After the cessation of the generative faculty, (Davis, Smith, Beck, Locock, Kennedy, T. Stack, G. Semple, Capuron, Foderè, and Diemerbrock).

Males have occasionally been found capable of supplying milk in abundance, sufficient to suckle children, (Magendie, Beck, Humboldt, Captain Franklin, &c.).

4. *Quickening*.—In a legal point, the subject of quickening is of great importance; though, from all that has been written on it, it will be seen how fallacious a sign it is. This is, moreover, confirmed by the ridicule heaped on the English law by Drs Ryan, Montgomery, Traill, Paris, and Fonblanque, Beck, Gardien, and others. Indeed, the law as it stands, is immoral, unjust, and irrational. With many others, we should keep in recollection the case of Genevieve Supplice, who, after being hanged for robbery, was publicly dissected, and found pregnant of a child of five months, contrary to the opinion of the surgeons and midwives who had examined her, as is related by Riolan;[1] as also of another woman, in 1666, mentioned by Mauriceau,[2] who was hanged, publicly dissected, and found to be pregnant four months, notwithstanding the report of professional persons, who pronounced her not pregnant, and that on the ground of her continuing to menstruate.

Quickening, and the motions of the fœtus, are simulated by various irritations and diseases; thus, nervous and hysterical women very frequently make this mistake, (Ryan and Foderè;) flatus in the bowels will produce the same effects, (Burns, Ryan, Davis, and Hooper;) accumulation of menstrual fluid in the uterus, (Dewees and Montgomery;) hydatids, (Davis, Collins, Mauriceau;) and ovarian disease, (Burns, Vater, and C. L. Schmalz.)

But even in real pregnancy, "some women never perceive the spontaneous motions of the fœtus and quickening during the whole period of gestation," (Ryan, Johnson, Gooch, Dewees, Burns, Davis, Montgomery, Beck, Baudelocque, and Gardien.)

Quickening does not take place in uterine moles, (Burns, Ryan, and Mason Good;) nor in polypi, (Cooper and Mayer.)[3]

5. *Labour*.—Simulated labour will generally occur in the expulsion of hydatids, moles, polypi, retention of coagula in the uterus, tympanitis uteri, imperforate and cribriform hymen, extra-uterine pregnancy, membranes expelled in dysmenorrhœa, various uterine tumours, &c.

In the famous extra-uterine fœtation of Anne Mullerin, a native of Wirtemberg, she had simulated labour pains, which lasted seven weeks;[4] and in Mrs Hope's case, labour continued for three weeks.[5]

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[1] Anthropog. lib. vi. c. 2.

[2] Maladies des Femmes Grosses, tom. i. p. 71, 72.

[3] De Polypis Uteri. Berolini, 1821.

[4] Hist. de l'Acad. Roy. des Sciences, 1721, p. 33.

[5] Med. and Phys. Journal, vol. vi. p. 360.

A woman who was in real labour, but whose uterus at the same time contained three stones, was not delivered for three weeks, according to the chronicle of Antoninus, quoted by Louis. Persons who have stones in the uterus experience violent pains in it, and have bearing-down efforts similar to those of labour, (Ambrose Parè.)

On the other hand, there have been some rare cases of extra-uterine pregnancy, in which the woman has sustained nothing like the pains of labour at any time, (Perfect, Davis, and Gualandris.)

Again, at page 610 of the July Number of this Journal, for 1842, we find "A case in which Pregnancy was unattended with the usual signs, and in which Parturition occurred without Labour Pains," (Lewis.) A celebrated case is related by the late Dr John Clarke, in the *London Practice of Midwifery.*

In the case of Mrs W., we have seen that not only pregnancy, but that the first and second stages of labour were simulated in the most perfect manner.

6. *Vagina.*—The dilatation of the vagina "may arise from fluor albus, chlorosis, menorrhagia, or certain malpractices," (Beatty.) "The orifice of the vagina is ordinarily narrow, but it may be relaxed by leucorrhœa, or may be larger in a virgin than in a woman who has been violated," (Ryan's *Medical Surgery*, p. 180.)

In the case of a girl, not 13 years of age, who formed an illicit intercourse with a man, "there was found extreme dilatation of the vagina," (Marc.[1]) In the case of a girl, aged 16, the vagina would scarcely admit the introduction of a goose-quill. This state continued for eleven years after marriage. At the fifth month of pregnancy the vagina began to dilate, and at the full time it had acquired a size sufficient to permit the passage of the infant, (Beatty.)[2]

The dilatation and relaxation of the vagina and external parts may also be produced by the expulsion of a mole, hydatids, or retained menstrual discharge, and by long-continued leucorrhœal discharge, (Montgomery.)

Relaxation of the vagina takes place during labour, or even long before it, (Van Swieten and Plenk.) In one case, the urethra was greatly dilated, and had served as a substitute for the vagina, notwithstanding which the female became pregnant, and was delivered by dividing the hymen, (Champion.)

7. *Lochia.*—In extra-uterine pregnancy "the woman suffers much from pain, and there may be a sanguineous discharge from the uterus," (Burns.) The expulsion of the membranous substance in dysmenorrhœa is followed by lochial discharge, (Morgagni.) A discharge precisely similar "may be present after the expulsion of a mole or other morbid growth in the uterus, (Ryan and Burns.) What could occasion the sanguineous discharge in the case of Mrs W.?

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[1] Dict. de Méd., art. *Violation*, tom. xxi. p. 353. [2] Cyc. of Pract. Med. vol. ii. p. 600.

"We must take care that we do not confound with the lochia some discharge of a different nature, such as the menstrual, or perhaps one of a morbid origin; from either of which, however, a careful examination of the uterus and external organs would almost certainly enable us to distinguish it," (Montgomery.)

We must keep in recollection, that even after delivery the lochial discharge " is entirely absent in some natural cases, (Ryan, Frank, and Schoenberg.) There are cases recorded of the almost entire absence of the lochial discharge, without however being attended with any inconvenience," (Davis.)

We shall now be enabled to dismiss the other signs and anomalous symptoms, as nausea, vomiting, heart-burn, longings, aversions, spots, and ephiledes, frightful dreams, dysuria, hæmorrhoids, cramp in the leg, varicose veins, and anasarca, by referring all of them to various irritations, sympathies, and pressure—acting and reacting on each other. In so doing, however, we leave this portion of the subject still involved in as great obscurity as before, equally ignorant of the derivation of their origin.

In drawing the present article to a conclusion, I shall avoid entering upon an elaborate discussion of the various arguments which may be adduced in favour of, or against the principal signs of pregnancy, and of enteritis. I shall merely inquire,—Are the symptoms detailed in the foregoing case to be ascribed primarily to the intestinal canal, as the centre of morbid action? or, are they to be connected with some irritation going on external to this organ of sympathy?

By adopting an abstract style, I have been enabled to condense a considerable mass of practical information, without the parade of special reference, or lengthened array of conflicting doctrines. My object was that of calling the attention of the young practitioner to the study of the signs of pregnancy, unbiassed by any preconceived notions, and independent of the trammels of dogmatism.

How often do we not hear the careless and ignorant pretender boast of his intuitive tact of discovering the existence of pregnancy, while the well-informed and cautious practitioner modestly assures us, that it would defy the united experience of Europe to predicate a case with certitude in every instance. M. Velpeau says, " it is dangerous to forget, that there exist causes without number of deception, and that before the tribunals one ought never to give a decisive judgment, without having previously acquired a mathematical certitude of the fact upon which he pronounces."

Morever, there is much reason to fear that the great moral responsibility involved in such cases is frequently lost sight of, both as regards the life or character of the woman, and as regards our own reputation. When an opinion has been given as the result of science, mature reflection, and caution, can man enjoy a purer, prouder, more gratifying reflection?

It is a matter of much regret that we have no systematic arrangement or compilation of simulated cases—no faithful record of the precise circumstances under which they occurred; though obstetric and medico-legal works of ancient and modern times, as also English, French, and German medical journals, abound with examples. The statements of medical men on this subject are vague, general, and contradictory. No special rules as a guide to the practitioner in any given case are laid down. This very circumstance has caused much confusion in medical opinions, and has occasioned the refutation and the downfall of many an infallible sign, "each of which is in its turn consigned to oblivion, and perhaps again revived as a novelty at some future period."

In the present state of our knowledge, we must rely on the tact acquired by previous experience, research, observation, and reflection, and must often depend more upon a correct estimation of the general state of the patient, than upon the appearance or absence of any particular symptom.

We thus find, that the case under notice, is one of extreme interest, in whatever point of view we may regard it. And without fear of contradiction, I may remark, that there is no subject in medicine which has given rise to more controversy, is involved in greater obscurity, and offers so extensive a field for investigation, as the signs of pregnancy.

LIMEKILNS, FIFESHIRE, Feb. 2, 1844.

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ARTICLE II.—*Upon Excision of the Superficial Layers of an Opaque Cornea as a Method of Restoring Vision. By* ROBERT HAMILTON, M.D., F.R.S.E., *Fellow of the Royal College of Surgeons, and one of the Surgeons of the Edinburgh Eye Infirmary.*

(*Read before the Medico-Chirurgical Society of Edinburgh, Feb.* 9, 1844.)

Last session, I ventured to bespeak the favourable regards of this Society to some recent suggestions for the improvement of ophthalmic practice; and with this object in view had the honour of reading two short memoirs,—the one upon the minute care to be observed in undertaking the principal operations on the eye, referring particularly to the times and seasons at which they may most safely be performed; and the other, upon the cure of inveterate pannus, by the inoculation of the matter of blenorrhœa.[1] Another subject I had then especially in view, was the one just announced: but fearful of making unbecoming demands upon the patience of the Society, I postponed its production to the present time—a course which is all the more fortunate, since, during the interval, together with many of my fellow-members, I have had the pleasure of much personal intercourse in this city, with my amiable and talented friend Dr Gulz, whose success in the not very rare, and truly distressing circumstances on which we are about to dwell, forms a prominent part of the present brief communication.

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[1] MONTHLY JOURNAL, vol. for 1843, p. 201, and p. 579.

Dr Gulz, lately *chef de clinique*, and assistant to Professor Von Rosas at the great Ophthalmic Hospital in Vienna, has lately succeeded in restoring vision to one of those unfortunate individuals who had become blind from extensive opacity of the cornea, by excising the opaque anterior portion, leaving only the posterior normal part, which healed without losing its transparency, and left permanently a clear aperture available for all the purposes of useful vision. This success to an almost unlooked-for extent, together with very decided relief in some other cases, has led him to anticipate a like result in similar instances; and has induced him to support the thesis, that there are cases in which excision of the opaque cornea will be effectual in restoring permanent vision to the blind. This important proposition in ophthalmology, together with a brief narration of the cases just referred to, will form the subject-matter of the following memoir.

It is of primary importance that the *precise nature of the cases to which the proposed method is applicable* be clearly understood; as otherwise, mistakes and injuries will be the necessary consequence.

In these cases, then, as in the somewhat allied class belonging to the head of artificial pupil, it is absolutely necessary, that the *sentient portions of the eye be in their normal condition*, and that the defect of vision arise solely from some obstruction of a mechanical nature interfering with the admission of the rays of light. The morbid conditions inducing such obstacles need not here be enumerated; but in all, though the obstacle to distinct vision be complete, yet the perception of light must never be destroyed; and the practical surgeon will seldom or never have any difficulty in discovering that the nervous parts of the organ still preserve their integrity.

Again, and to be somewhat more particular, there must be no *anterior synechia*, nor any *closure of the pupil*. No words are necessary to enforce this proposition. Were the cornea rendered ever so clear, both the abnormal states here specified would form insuperable obstacles to vision; and we are not yet in a position to advise that the operation on the cornea should be attempted, in the hope that a second one for artificial pupil might restore the sight. The existence of *staphyloma*, we may add, must always diminish the prospect of success. With the majority of oculists, we hold that in staphyloma the iris is usually involved, adhering to the remaining cornea, or to the cicatrix-tissue which supplies its place. Notwithstanding this unfavourable state of matters, it is interesting to know, that some such cases have been noticed in which very tolerable vision has been retained. Two instances of this kind will be brought under review in the sequel, so that even in these cases all hope must not be abandoned;—hence then, the appropriate cases for the method about to be detailed are reduced to those affections of the cornea which are classed as *simple opacities*. And even here it is necessary to discriminate. The obscurity of the cornea arising from the thickening of its conjunctival covering, constitutes the proper pannus of oculists, and is to be treated upon the general principles alluded to in the paper previously read to the Society. The slighter varieties of opacity, whether of general cloudiness or of local film, and even the more obstinate forms of albugo and leucoma, must be treated upon other principles; and hence the fitting cases for this operation come to be those in which there is a very considerable obscuration of the cornea proper, covering the whole surface of the membrane but not extending throughout its entire thickness, without synechia, and with the integrity of the sentient apparatus.

And such cases are unfortunately too common. They are found in strumous subjects as the result of that obstinate disease known as the vascular albugo of oculists; also, of Egyptian and other virulent purulent ophthalmiæ; likewise, in cases of severe corneitis, with effusion of blood and lymph between the layers, and, not to dilate more, in certain of those cases of violent inflammation, induced by the introduction of lime and such matters, which, by their chemical action, almost immediately destroy the superficial layers of the membrane, and penetrate to a certain but limited extent. The result of accidents and diseases such as these, is to induce a state of the cornea, in which useful vision is lost, and where all attempts at relief are usually abandoned in despair.

Certainly it is not a little vexatious to the surgeon to know, that in all these cases the more noble and important parts of the organ are still entire, and that a mere chink or aperture is all that is desiderated for satisfactory vision. It is this condition of the parts which has led the first oculists of their time so much to tax their ingenuity and skill in endeavouring to overcome the apparently trifling obstacle;—that led the University of Munich to offer an honorary prize to the individual who would indicate how the difficulty might be overcome;—that has led such men as the elder Autenrieth, Beer, Ammon, Henle, and Guthrie, in cases of opaque cornea, and of staphyloma, themselves to undertake, and to recommend to others, the operation of *sclerectomia*,—the operation of simply removing a minute portion of the sclerotica and choroid, near the corneal margin, so hoping for a vicarious or artificial pupil;—or the modification proposed by the celebrated Wutzer of Bonn, of substituting, in the same spot, after the Taliacotian method, a portion of the transparent cornea instead of the natural and opaque membranes;—that has moreover led Febure, and more recently Dieffenbach, to advise, and, it is stated,[1] successfully to execute the complete excision of the central opacity of the cornea, and to unite the lips of the wound thus made by sutures;—and finally, that has led Reisinger, and more lately Dr Biggar of Dublin, to propose, and in the lower animals, to execute with success the removal of the opaque cornea, substituting a transparent one in its place, and so restoring useful vision.[1] All these anxious and persevering efforts of ingenuity and skill must, we fear, be conceded to have failed; and hence the proposal before us will readily be received with a larger share of favour and consideration.

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[1] See Stoeber, Man. Prat. d'Ophth., p. 260; Ammon's Zeitschrift, i. p. 177.

The *history* of this proposal, we believe, is as follows:—

The ophthalmologists of Vienna were not, of course, ignorant of the state of the science regarding the class of cases on which we have been dwelling, and particularly respecting the forms of simple opaque cornea, and the methods which have been proposed for remedying the distressing complaint. Meditating upon the peculiar texture and organisation of the cornea, and upon that variety of the disease we have indicated above, it had long been the opinion of Professor Von Rosas, that the diseased part of the cornea might be sliced away, so leaving a clear portion beneath; and, moreover, that this operation might so be managed that the resulting increased action would not produce a new film, but leave the parts in a translucent or transparent state.

This speculation was converted into a kind of certainty, by there appearing at the Clinical School, in the year 1833, a man in whom the left eye was atrophied, and whose right exhibited a complete obscuration of the cornea, with the exception of a small portion in its centre about the size of the natural pupil, which was clear, and which served all the useful purposes of vision. Here the unaided powers of the constitution had wrought an excellent cure; and art was as it were challenged to accomplish that which nature had so well effected.

Accordingly in the Ophthalmic Clinic of the session 1833—4 Professor Rosas undertook the performance of this operation in two cases. In the former, he may have been said to have removed by far the greatest number of the layers of the cornea, and the trial was not unsatisfactory, inasmuch as the patient was quite cured of his wound, and left the Hospital with very decided improvement of sight. The subsequent history of this case, however, was unfortunate. It was ultimately ascertained that after leaving Vienna, fresh inflammation attacked the eye, and the advantage which had been gained was completely lost. In the latter, the external and opaque layers of the cornea only were removed; the remaining part was found in its normal state, the healing process advanced to its close without any opacity being superinduced, and a cure was effected by means of a clear membrane. Six months afterwards it was ascertained from good medical authority, that the patient continued to see as well then as he did upon leaving the Hospital. In both these cases, the greatest care was taken after the operation to regulate the re-action which necessarily followed, by the antiphlogistic regimen, and by cooling local remedies.

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[1] See Dr Biggar's able Inquiry into the Possibility of Transplanting the Cornea, in the Dublin Journal of Medical and Surgical Science, vol. xi. p. 408. 1837.

In subsequent years the operation was occasionally performed with mingled, rather than with marked success; but with a sufficient measure of it to encourage still farther trials.

The next event in the history of the proposal to which we have to direct attention is a case which presented itself in the Ophthalmic Clinic of Vienna in the session 1841–2, and which fell under the immediate care of Dr Gulz. In this instance, there was a cure effected in both eyes; in the one, which was in a staphylomatous state, by nature; in the other, by the hand of the surgeon: and so far as our knowledge extends, this is the most detailed and remarkable instance of the success of the method which has hitherto occurred.

Salomon Maschkowits, Oct. 28,[1] from Hungary, a tailor by trade, of leucophlagmatic temperament, and having about him the traces of struma, two years previously was attacked, in his native country, with purulent ophthalmia, after being in frequent and close communication with a fellow-workman labouring under the disease. For the cure of this complaint he resorted to an hospital, from which, after a treatment of eighteen weeks, he was dismissed, with no greater power of vision than that of distinguishing between light and darkness. After dismissal, as might be expected, there was no improvement, but the reverse. The left eye gradually augmented in size; the corneal portion at the same time projected more and more, and the blindness continued as bad as ever. These symptoms advanced for about a month, when, one morning upon awaking, the patient, to his great joy, observed that he could perceive objects with his left eye, though it was more than ordinarily tender and painful. From all that could be learned, and from a careful examination, it appeared that the ophthalmia had produced spherical staphyloma in this eye, which ran its usual course, getting larger and larger till at length it had burst, after which the cicatrization had finally stopped at that stage in which there was the formation of a transparent membrane, a termination not more fortunate than rare. At all events, upon his presenting himself at the Vienna Clinic, this eye was found with the remains of a genuine staphyloma, the most projecting portion of which was smooth, as if it had been shorn with a plane, also transparent and shining, to the extent of half a line; so permitting the passage of light to such an amount that the patient could readily distinguish larger objects and colours; and clearly demonstrating that there are circumstances in which, even after the rupture of a protruded cornea, with adhesion of the iris, a clear and useful aperture might still be left.

The disease in the right eye had run a different course. The external layers of the cornea had been more or less inflamed, ulcerated, and destroyed, and the healing powers of nature had operated by substituting in their place a substance, whitish and opaque, over the whole surface of the cornea. On the patient's presenting himself at the hospital, granulations were found in the palbebral conjunctivæ of both eye-lids, and the right cornea was somewhat flattened; in all its extent obscured by a cicatrix, the result of the previous ulceration, whilst at the same time, the organ readily discriminated between light and darkness. It was thought, or at all events, hoped, that the obscuration and ulceration of texture in this instance did not extend throughout the whole depth of the membrane; and the case was deemed a fair one for attempting what could be accomplished by the slicing off of the opaque portion of the cornea and leaving the transparent part as little injured as possible.

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[1] Dr Gulz read the history of this case to the Medical Society of Vienna, and published an account of it in the Osterreichische Medicinische Wochenschrift, No. 24, June 1842.

As preliminary to any thing in the shape of operation, the removal of the granular state of the palpebral conjunctivæ, with the consequent inflammation, was first essayed, and accomplished without difficulty.

The operation was performed by Dr Gulz, under the direction of M. Von Rosas, in the following manner;—the instruments employed being the cataract knife, with a double cutting edge of Rosas, and the pyramidal knife of Beer, together with a small toothed forceps, and a delicate pair of scissors. The eye-lids of the patient were conveniently fixed by the fingers of an assistant, and the cutting consisted in the continuous and repeated introduction of the knife, following the motion of the eye-ball through the external layers, so gradually approximating the internal parts of the cornea. The manœuvre required to be repeatedly and adroitly performed, until the transparent part of the cornea was at length reached; it was then, by the help of the different instruments, bared to the extent of a line and a half in diameter, the innermost layers of the cornea being fortunately uninjured throughout, and consequently the anterior chamber of the aqueous humour remaining unopened. The operation occupied about a quarter of an hour in its performance; and after its completion, the vision was improved to such an extent that the patient could perceive different shades of colours, and the smallest objects, such as the hands of a watch, with facility.

The subsequent treatment consisted in the application of plasters over the eye-lids, so preventing their motion; these again were covered with cold and ice-water, to moderate every thing like excess of action; the patient was placed in a dark room, and the strictest regimen was enjoined. All appeared to progress favourably, and no alteration was made during the first eight days. At the end of that time the plasters were removed, and a collyrium, first of a solution of hydriodate of potash, (1 gr. to the ounce,) and subsequently of the solution of muriate of ammonia, was used.

All went on most promisingly for the first four weeks; after which the eye was attacked with ophthalmia, the result probably of cold, or some irregularity in diet. The inflammation invaded the iris as well as the cornea; and to such a degree, that the thinned cornea was pushed forward, forming a keratocele, to such an extent that the bursting of the membrane was seriously apprehended. By venesection, however, leeching, and the application of solution of alum and ice, and by the use of calomel internally, the danger was arrested and the attack subdued. In a few days the vision, to the great joy of all parties, was found uninjured; and after the additional period of five months, it continued to exhibit the same degree of perfection which was enjoyed previous to the inflammatory attack.

The patient, as may be expected, is near-sighted, requiring to hold objects near to the eye, and to place them in a good light. This is readily explicable, from the greater convexity of the cornea, the small size of the pupil, and from the fact that the new made aperture is somewhat more distant from the retina. Glasses could effect much in these circumstances; but even without them, the amount of vision is most satisfactory, and to the patient invaluable.

On examination, the white and opaque portion of the cornea near its centre is found removed, whilst the internal transparent part preserves its natural appearance. In this way, much of the old deformity is removed; so that in addition to the more substantial benefit of good sight, the general appearance of the patient is much improved.

Concerning this operation and its fortunate results, nothing is further from Dr Gulz's mind, than the assumption of any supposed merit arising from the dexterity of its execution, or the superior wisdom with which the after treatment was conducted. That it requires considerable dexterity and steadiness of hand is undoubtedly true, and not less, great attention and care in the after treatment. The claims of the case to consideration, rest mainly perhaps on its comparative novelty and rarity, and especially on its unexpected success, whereby the utility of the art may be extended, and not a few miserable sufferers restored to comparative enjoyment and comfort.

On the *rationale* of the success in this, and the few other similar cases here recorded, it is unnecessary to dwell. It is clear that the opaque cornea, which is the subject of operation, is far from being in its normal condition; and even when the lower and transparent portion is reached, it is surrounded with an opaque areola very different from the healthy cornea. As throwing additional light on this important point, we quote a case which occurred in the extensive experience of the late Mr Tyrrell. A man, aged 37, applied to the Moorsfield Hospital, having acute purulent ophthalmia of the right eye, with commencing disease in the left. Severe depletory measures were adopted, but in forty-eight hours afterwards, sloughing had commenced in the right cornea, and there was chemosis of the left, with haziness of the upper part of its cornea. Further depletion, and other remedies, were had recourse to, and the inflammation was subdued, but not before a part of both corneæ had lost its vitality. The separation of the sloughs left deep ulcers of a crescentic figure at their upper margins, which in the right communicated with the anterior chamber, producing prolapsus of the iris, which was reduced by belladonna. The reparative process was excited by the use of local stimuli and improved diet; and instead of the usual deposit of opaque matter, the cavities were gradually filled up with a perfectly transparent substance, resembling very much the original texture. Two years afterwards, the man returned to the hospital, at which time some very slight irregularity of the surface alone indicated the previous seat of the disease.[1] The opaque and normal condition of the cornea, therefore, though from circumstances a common, is not at all a necessary preliminary of the cure; and the conclusion, as it regards both the more chronic and the acute cases, is evidently this, that what nature can do, art should attempt to imitate.

From our present very limited experience, it is not easy to draw any very decided conclusion as to the amount of benefit likely to accrue from the practice now proposed. That our art, in cases of severe and chronic cases of opacity of the cornea, is considered ineffective and powerless, by the great majority of authors and practitioners, is beyond a doubt. Beer and Walther, high continental authorities, contended, we believe, that all prospect of success in such cases was chimerical,—a proposition whose accuracy, however, was contested by Scarpa and Von Ammon. British surgeons, as will readily appear from a reference to their works, are almost unanimous in expressing their conviction that benefit in such cases from any remedial means now employed is not to be expected. We shall exhibit these sentiments in a couple of sentences recently written by two of our most respectable authorities. "Ulcer of the cornea, extending at all deeply, is followed by some degree of opacity, which can never be completely removed at that part where a considerable number of the corneal layers have been destroyed."[2] And again, "It is useless to attempt, by medical or surgical means, the removal of these dense opacities."[3] Such opinions, though weighty, are fortunately not conclusive, else there would have been long ere this time an arrest to all progress in the healing art. Sound judgment and discretion must here guide and direct on the one side as on the other. That such cases and proposals as those above detailed, should be received with much careful scrutiny, we not only allow, but would enforce. That, on the other hand, they should be met with blind prejudice and impatience, we are equally prepared to deprecate and condemn. We cannot probably better convey our own sentiments on the point, than in the remarks with which Dr Gulz concludes his account published in June 1842. By the foregoing case, says this able oculist, the possibility of obtaining a clear aperture in the middle of a generally opaque cornea by surgical operation, and in certain cases of staphyloma, which may be styled *kerectomia*, is placed beyond a doubt. And that this will frequently prove of incalculable value to unfortunate sufferers, can as little be matter of dispute. Such cases, usually abandoned to their sad lot, are not very uncommon in society, and too often, in the long run, find their way to the poor-house or some blind asylum. They will, moreover, ever be recurring to our notice, so long as the cornea is exposed to so many accidents from without,—is so often the subject of purulent ophthalmia, and the still more frequent ravages of disorders of scrofulous origin. The suggestions here offered, and the operation accomplished, are as yet only on their trial; I cannot, however, but entertain the hope, that from the wonted energy and combined efforts of those who are favourably situated for investigating these subjects, they will ere long assume an honourable position among the remedial agents for the management and cure of ophthalmic disorders.

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[1] Tyrrell on the Diseases of the Eye, i. 261.

[2] Middlemore on Diseases of the Eye, . 180.

[3] Tyrrell, op. cit. i. 263.

After the treatment of the several cases above referred to between the years 1834 and 1842, and the publication at length of the last of them in June of the last named year, in one of the leading journals of Europe, and its notice unquestionably in others, it is not a little curious that the celebrated Parisian surgeon, Malgaigne, could, on the 3d April 1843, entertain the Académie Royale des Sciences, with such intelligence as the following, reported on by MM. Roux and Breschet:—"When opacities of the cornea," says M. Malgaigne, "are of long standing, and have resisted all remedial means, Surgery, up to the present time, has owned its incompetency to afford relief. At the same time, numerous dissections have satisfied me, that, generally, these opacities affected only the external layers of the cornea, and that the internal ones remained transparent. Hence the question naturally arose, If it were not possible by the knife to remove the abnormal layers? To this there was but one objection, viz., that the newly made wound might leave an opacity as bad as the previous one. Bearing, therefore, on this point, I undertook a series of experiments upon living animals. I removed about half the thickness of the cornea, and in the end preserved a cicatrix, which was perfectly and absolutely transparent. Here, then, is one new fact reaped for science!

"Satisfied upon this point, I conceived myself entitled to apply the fact to the human subject; and I have now performed one operation upon a girl in the Clinical Hospital, where I had the honour of acting for M. Jules Cloquet. No sooner was the incision concluded, than the girl exclaimed that she had received her sight.

"I limit myself at present to the mention of this first attempt to the Academy, and at a future period will furnish the ultimate results of these operations."

I cannot forbear making a remark or two upon this note of M. Malgaigne.

Here we have one of the most distinguished surgeons of Paris condescending to make *L'Académie des Sciences* the arena in which he lays claim to the discovery of a new fact in science, as it regards the lower animals, and its first and successful application to the removing of an important defect in man, in his young patient of the Clinical Hospital, and using the *Comptes Rendus* (t. xvi. 659), and *L'Archives de la Médecine*, as the vehicles of publishing his discovery throughout the world. The complacency with which this is done—for we would avoid all harshness of expression—is not a little interesting. Are we to suppose that the operations above reported from the Vienna Ophthalmic Clinic, and their publication nearly a year before, were unknown to the Parisian surgeon? And, are we to conclude, that M. Malgaigne was ignorant of the fact, that it is one thing temporarily to remove a mechanical obstruction to vision by section of the cornea, and another to maintain this happy result in permanence and perpetuity? A direct answer to these inquiries would be both curious and instructive. We should be unwilling to imagine that any French surgeon would be slow to concede scientific merit to others, and especially to foreigners, where that merit was due. And sure we are, that if any offence of this kind, at any time, through inadvertency, or otherwise, appears in the commonwealth or literature of science, it should, on all hands, and promptly, be exposed and redressed.

P.S.—Since the foregoing observations were written, I have read in the late numbers of the *Annales d'Oculistique*, *first*, A criticism, communicated to the Académie des Sciences, of M. Malgaigne's *Memoir*, by M. Desmarres; and, *secondly*, Remarks to the same learned Academy, by M. Magne, on the sentiments of M. Desmarres.

We subjoin, in a few words, the opinion of these gentlemen.

M. Desmarres proves incontestibly that M. Malgaigne's claims to novelty of discovery are baseless, and that both Dr Mead and Baron Larrey have stated that the practice has succeeded in their hands. Notwithstanding this, he contends, somewhat inconsistently, we should think, that the practice should invariably be proscribed, except in cases where central opacity is the result of the deposition of oxide of lead, or other such substance, and that the operation for artificial pupil should in all instances be preferred. But how could any operation for artificial pupil be available in the many cases in which the opacity extends over the whole surface of the cornea?

M. Magne again contends, that all cases of leucoma are incurable by this, or by any other method; but, on the other hand, that albugo is curable by nitrate of silver without the knife; whilst, in those cases in which the opacity extends over the whole surface, he considers that the surgeon is warranted in making the attempt here discussed, to relieve.

ARTICLE III.—*Contributions to the Pathology and Treatment of Diseases of the Uterus. By* JAMES Y. SIMPSON, M.D., *Professor of Midwifery in the University of Edinburgh, &c.*

(*Continued from Vol. III.*, (1843) *p.* 1027.)

PART IV.—ON THE MEASUREMENT OF THE CAVITY OF THE UTERUS AS A MEANS OF DIAGNOSIS IN SOME OF THE MORBID STATES OF THAT ORGAN.

In our last communication, we described a number of morbid conditions of the uterus in which the cavity of that organ is more or less elongated. We showed that the diagnosis of these affections could be greatly advanced by ascertaining, through the use of the Uterine Bougie, the exact extent and degree of the existing elongation. It was at the same time remarked, that in some pathological states of the uterus its cavity is shortened and diminished in depth. On the present occasion, we purpose to describe briefly this latter set of cases, and will point out in what respects their discrimination during life may be promoted by the employment of the Uterine Sound.

INSTANCES OF DIMINISHED LENGTH OF THE UTERINE CAVITY.

The Cavity of the Uterus, when shorter than natural, may have its depth diminished as the result of malformation, of disease, or of displacement.

1. *Preternatural shortness of the Uterus from original malformation of the organ.*—Few of the malformations of the uterus, with the exception of the duplicity and absolute deficiency of the organ, have as yet attracted much attention. It would, however, be easy, we believe, to bring together, by a little patient research, a considerable series of cases in which the organ was found less than its normal length by an inch or an inch and a half. In some instances, in fact, the cervix of the uterus is alone present, and the body and fundus of the organ are imperfectly or totally undeveloped. In more strict terms, the lower extremities of the Fallopian tubes, instead of coalescing and becoming evolved into the body and fundus of the uterus, remain separate, retain their tubal character, and open into the superior part of the single cavity of the cervix. Such appears to us to be the explanation of the case, for example, described by Lauth, in which the cervix was sufficiently well formed, with the tubes opening into it almost directly, and only separated by a small cavity.—(Andral's *Anatomie Pathologique*, tom. i. p. 677). Morgagni speaks of a uterus in which the distance from the os to the fundus was not so much as the breadth of the thumb. The genital organs were in other respects malformed.—(Epist. xlvi. 20, Alex-

ander's Translation, vol. ii. p. 661.) Dr Dewees mentions an instance of amenorrhœa in which the uterus was of "a size not exceeding the thumb of a man,"—(*System of Midwifery*, p. 69, ed. of 1837).

In that particular variety of malformation which various pathologists have described under the name of "oblique uterus," and where the organ originally lies with its fundus directed to one side of the pelvis, and has one set of its lateral ligaments shorter than another, the organ is sometimes, though not always, shorter than natural. Tiedeman describes an oblique uterus two inches and a line in length, and in which the cavity would measure considerably under two inches, (*Von den Cowperschen Drusen des Weibs*, &c. p. 26).

In all cases in which the uterus is malformed and shortened in the modes we have alluded to, the Uterine Sound will probably afford us important diagnostic information, by enabling us to measure the exact degree of diminution in the length of the cavity of the organ. To make the information more certain and precise, it will be necessary at the same time to ascertain, by a hypogastric or rectal examination, that the apex of the instrument has really reached the superior end of the uterine body, and hence, that it is not arrested in its progress by any structure in the cavity, or by any flexion in the walls of the viscus, such as we shall afterwards fully describe.

2. *Uterine canal shortened from stricture or partial obliteration.*—"A stricture," says Dr Baillie, "is sometimes formed within the cavity of the uterus, so that its cavity at one part is obliterated entirely. This, (he adds) I believe almost always to take place at one part, namely, where the cavity of the fundus uteri terminates, and *that of* the cervix begins, for in this place the cavity of the uterus is narrowest. As the sides of the cavity round this place lie very near each other, and form naturally a small aperture; it is probable that some slight inflammation may unite the parts together, and shut up the aperture; or the parts may gradually approach each other without this cause, as in the stricture of the urethra."—*Morbid Anatomy*, edit. of 1812, p. 379).

The morbid state which Dr Baillie has so accurately described in the above quotation, as the result of his observations upon the dead body, could only be detected upon the living subject, by examination with a Uterine Probe or Bougie. Nor would the diagnosis be difficult, for at the same time that it was found that the Bougie was completely arrested in its progress upwards, at the distance of an inch, or an inch and a half from the os tincæ, it might be ascertained by a hypogastric examination, that it was still far from having reached the fundus uteri.

Since the time that Dr Baillie wrote, Professor Mayer of Bonn has shown that in old persons, the os internum or cervico-uterine orifice is so often obliterated, that it may be almost looked upon as a normal condition, connected with the general atrophy of the viscus that takes place in very advanced life.—(*Beschreibung einer Gra-*

viditas Insterstitialis Uteri, p. 14). In one or two aged patients I have found it impossible, during life to pass the smallest probe through the os internum, probably owing to the contraction in question. The cases I allude to were those of females, who in earlier life, had produced children, and where there was therefore no original stricture or malformation.

Stricture of the os internum is, like diminution in the size of the os tincæ, not unfrequent in females affected with dysmenorrhœa, and who, though married, have never had children. In several cases I have met with difficulty and obstruction in passing through the opening between the cavities of the neck and body of the uterus, a sound or probe that had already passed easily and freely through the os tincæ. I have at present under my care a case of this kind in which there is a most remarkable degree of antroversion of the whole uterus. Jahn, in his *Essay on the Oblique Uterus*, mentions an instance of that malconformation where, after death, the os internum was found so narrow that a fine probe could not be passed through it, *(ut subtilissimo stilo transitum denegaret)*; and yet the os tincæ was well formed, (*De Situ Uteri Obliquo* in Schlegel's *Sylloge Operum Obstetr.*, tom. i. p. 268). In Ruysch's *Catalogue* a uterus is mentioned, with the os internum so small as not even to admit the head of a small needle, *(ne caput quidem aciculæ minoris admittere posset)*. *Thesaurus Anatomicus*, vi. No. 85.

Occasionally the whole cavity of the body of the uterus is obliterated, from the os internum to the fundus, and yet the cavity of the cervix continues patent. Cruveilhier speaks of having seen a case of this kind, " in which there was no trace of a cavity in the body of the organ, although the cavity of the neck remained." *(Descriptive Anatomy*, vol. i. p. 621, of Dr Madden's translation). An example of the same kind has been represented by Madame Boivin in the plates attached to her treatise on diseases of the uterus, (see plate xiii. fig. 3.)

The cavity of the uterus is, in some rare cases, partially obliterated, in consequence, as has been already stated, of the development of fibrous tumours in the walls of the organ. Under such circumstances, the obliteration is the result of inflammatory adhesions, formed between those portions of the opposed surfaces of the lining membrane of the uterus, that happened to be maintained in a state of close and morbid apposition, by the presence and pressure of the neighbouring tumours. The adhesive inflammation thus excited occasionally extends to some distance from its original seat. In all cases, however, the cavity of the cervix seems to escape, and the portion of the cavity of the body that is placed above the stricture frequently becomes distended and enlarged, from the accumulation of morbid mucous secretions within it. Cruveilhier has described a very illustrative case of this kind, in his *Anatomie Pathologique*, livrais. xiv. A preparation was presented to the Anatomical Society of Paris, as a morbid ovary. In external appearance, it had much more resemblance to an ovarian than an uterine disease. On more minute examination and dissection, however, it was found to consist of an agglomerated mass of fibrous and fibro-calcareous tumours, the whole forming a shapeless body, with an irregular, tuberculated surface. The tumours varied in size, from a pea to a large compound one weighing by itself about 1¼ pounds. On cutting into the midst of the mass, a cavity was found, filled with reddish serum, which it was easy to see was the cavity of the body of the uterus. This cavity was a shut sac, there being no opening from it. Inferiorly, its communication with the cervix uteri was entirely obliterated. When examined as to its vaginal relations, the uterus, (or uterine canal) seemed to terminate at an inch above the os tincæ. A blunt stilet, (adds Cruveilhier) passed in all directions, could not discover above this point any opening into the uterine cavity above. If the same means had been employed, as a matter of diagnosis during life, the same result would have been obtained as in the post-mortem examination, and that result would have afforded pretty conclusive evidence that the disease was not ovarian, because the uterus does not seem to be liable to become occluded in the course of its cavity, in connection with ovarian growths; and besides, the use of the Bougie would have shown the uterus imbedded in the tumour, and probably the partial canal of the cervix running in such a direction in relation to the tumour as to add further testimony to its non-ovarian character.

3. *Diminished depth and effacing of the Uterine Cavity in Inversion of the Uterus.*—We believe that the diminution in depth, and, in extreme cases, the total obliteration which the canal of the uterus undergoes in inversion of the organ, will generally give us the power of distinguishing this morbid state from all others to which it is symptomatically allied; and more especially from those forms of polypus that occasionally so strictly resemble it, and with which it has been frequently and sometimes fatally confounded.

When inversion of the uterus occurs immediately after delivery, it can, in general, be easily distinguished from a polypus that has passed through the os uteri after the expulsion of the child, or placenta, or both, because, omitting other considerations, though in each we may find in the vulva or vagina, (if we are led to make an examination by the severity of the symptoms,) a large fleshy tumour, yet this tumour, in the case of polypus, can be proved not to be the displaced uterus, as the fundus uteri can still be felt above the pubis, whilst the reverse is true of inversion. If any doubt remained in consequence of difficulties in the way of the hypogastric examination, or otherwise,[1] a Bougie cautiously passed by the stalk of the vaginal tumour, would, if it were a polypus, prove at once the uterine cavity to extend upwards to the length of six or seven inches, and if desired, would enable us further to feel more distinctly through the hypogastrium, the fundus uteri still remaining in situ. If the tumour were the inverted fundus of the uterus, the cavity of the organ would, on the contrary, be found shortened to an inch or two on all sides, and it would be found difficult, or impossible to bring, as usual, any part fully within the reach of an abdominal examination. In those rare instances in which the inversion was complete, the orifice and cavity of the uterus would be found entirely effaced.

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[1] For cases of polypus of the vagina after delivery mistaken for inversion, see Ramsbotham's *Practical Observations*, vol. ii. p. 473, and Gooch's *Account of Diseases of Women*, p. 282; and for cases of inversion under the same circumstances, mistaken for polypus, see *Gazette Médicale* for 1832, p. 422.

The difficulty, however, of distinguishing between polypus and inversio uteri is greatly increased when the diagnosis is attempted after the puerperal uterus has diminished to its normal volume, or when the patient applies for advice at a distance from the period of confinement, and the inversion is only partial. Under such circumstances it has repeatedly happened that a polypus has been mistaken for an inverted uterus,[1] or the still more dangerous error committed of considering an inverted uterus to be a polypus, and treating it accordingly.[2] Such errors involve not only the comfort, but the life of the patient.

It is true that a diagnosis can generally be established with considerable certainty between polypus of the uterus and partial chronic inversion of the organ, by attending, amongst other points, particularly to the two circumstances, that however similar in other respects, the tumour formed by inversion is, 1*st*, in its history, traceable to having appeared immediately after delivery; and, 2*d*, in its character, it differs from polypus in being sensitive to a greater or less degree to the touch, while the polypus is not so. We must, however, at the same time, hold in view that some fibrous polypi, when they carry down before them and are covered with a layer of true uterine tissue, or when temporarily inflamed, are found to be sensitive,[3] and that the inverted uterus becomes almost insensible when long ex-

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[1] See cases in *Ansiaux Clinique Chirurgicale*, p. 207; *Acta Havniensia* (1818) tom. v. p. 51.

[2] On cases of inverted uteri mistaken for polypi, see Morgagni *de Sedibus*, &c., epist. xlv., No. 4, Palletas' *Exercitationes Pathologicæ* p. 17, 18. Gooch in his *Diseases of Women*, (1831) p. 265, gives an instance where Dr Hunter applied, by mistake, a ligature to an inverted uterus. A preparation illustrative of this error was in the museum of the late Dr Hamilton; the patient, as in Dr Hunter's case, having died with the uterus partially cut through with the ligature. Occasionally the uterus has been included without fatal effects; see numerous quotations in Dr Burns' *Principles of Midwifery*, (1837) p. 128.

[3] "It is said that an inverted uterus is sensible to the touch, while polypi, on the contrary, are void of feeling. This can never be an accurate mode of forming a diagnosis, as we can only judge of the sensibility of the tumour by the expressions of the patient, which are regulated more by disposition than by the extent of her sufferings. I lately attended a lady with uterine polypus, and had I judged solely by the complaints of my patient, I should have pronounced the polypus to have been more sensible than an inverted uterus usually is."—*Dr Chas. Johnstone in Dublin Med. Reports*, vol. iii. p. 488.

"We shall always find it difficult to distinguish between the sensibility of the tumour posed;[1] and again the fact, that the tumour first appeared immediately after delivery, is not itself conclusive, because in some cases of inversion the accident has not caused such severe symptoms as to be recognised at that moment,[2] and again, the first time a polypus passes from the uterus to the vagina is occasionally immediately after labour.[3] In their physical character, the two diseases often very nearly resemble one another. "When the uterus," says Dr Gooch, "is only partially inverted, that is, when its fundus only is drawn down through its orifice into the vagina, and the patient has survived for many months, the tumour feels exactly like a polypus of the fundus. . . . In the smoothness of its surface, the roundness of its body, the narrowness of its neck, and its being encircled by the orifice of the uterus, it sometimes *exactly* resembles polypus of the fundus." P. 255.

To show still more strongly the difficulties which occasionally intervene in the distinction between chronic inversion of the uterus and polypus, I will adduce the testimony of one or two writers, whose authorities on this point are such as to command all confidence.

Mr Newnham, in his learned *Essay on Inversion of the Uterus*, after having brought together the opinions of many authors—ancient and modern—British and foreign—upon this question in diagnosis, adds, "on reviewing the foregoing testimony we shall be induced to conclude that it is always difficult and sometimes impossible, with our present knowledge, to distinguish partial and chronic inversion of the uterus from polypus." *Essay on the Symptoms, &c. of Inversio Uteri*. London, 1818, p. 82.

In his elaborate work on *Operative Midwifery*, Professor Kilian offers a nearly similar observation,—"An inverted uterus may so de-

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and sensation occurring in neighbouring viscera, which are irritated by the process of examination; while, too, it must be remembered, that the sensibility of the inverted uterus is greatly diminished in its chronic stage, and that the sensibility of polypus may be increased by the presence of inflammatory action.—*Newnham on Inversio Uteri*, p. 83.

[1] "It is said that the polypus is usually indolent, and that the fundus of the uterus has an exquisite sensibility, but very often one meets with painful polypi; and it must be so, since they are very often covered with the tissue of the uterus. Their lower part may be insensible, because this envelope is too thin, or it may be perforated. On the other hand it is certain that the sensibility of the inverted uterus gets duller after a time."—*Lisfranc Clinique de la Pitié*, tom. vii., p. 133.

"In time, the surface of an inverted uterus becomes less sensible to external impressions."—*Jourdan, Dict. des Sciences Médicales*, tom. 23, p. 288.

"Dr Montgomery has in his museum a preparation of inverted uterus which had during life been quite insensible to the application of the needle."—*Dr Burns' Midwifery*, p. 561.

[2] "The nature and even the facts of the accident have often not been discovered till after the lapse of many days, weeks, or months subsequently; and in a smaller number of cases not till after the death of the subject."—*Davis' Obstetric Medicine*, p. 1088.

[3] Two cases of this nature are given by Levret in his paper on uterine polypi, in the *Mémoires de l'Académie Royale de Chirurgie*, tom. iii., pp. 543, 545.—See also *Gardien's Traité des Accouchmens*, tom. iii., p. 316; *Delpech's Precis des Maladies Chirurgicales*, tom. ii., p. 586; three cases in the *Journal Hebdomadaire de Médecine*, No. 44; *Ramsbotham's Observations*, vol. ii., p. 473. I have seen one come down after a premature labour.

ceitfully *(tauschend)* resemble a polypus that the diagnosis is scarcely possible." B. ii. p. 280.

In a clinical lecture on inversion of the uterus, Velpeau, in alluding to the diagnosis of that disease from polypus in some very difficult instances adds, "there are cases in which doubt is the only rational opinion." *(le doute est la seule opinion rationelle.) Clinique Chirurgicale*, Paris 1841. Tom. ii. p. 425.

" When (observes Lisfranc, *Clinique*, vol. iii. p. 135,) the polypus or inversion has only partially opened the os uteri, we are assured that the diagnosis is impossible—authors do not even consider the case." " From the facts we have adduced," he adds (p. 136,)" one may easily conceive the immense difficulties met with in cases of this nature; thus under a great number of circumstances, the most distinguished practitioners have believed that they had tied polypi, when they had included the organ of generation itself in the ligature; and in other cases they have supposed they had removed the uterus either wholly or in part, when they had only relieved their patients of polypous tumours."

In order to resolve the difficult problem in uterine diagnosis to which these remarks refer, Malgaigne some time ago proposed a means which is thus described; (Lisfranc, *Clinique de la Pitié*, tom. iii. p. 137,) " a curved catheter is introduced into the bladder, it is then carried backwards and its concavity directed downwards so as to bring the point of the instrument into the bottom of the uterine sac: the index finger is then introduced into the vagina, where the point of the catheter is as easily felt as it is in the hypogastrium in ordinary catheterism. Thus the diagnosis is established, "but there are circumstances" continues Lisfranc, " in which the catheter, in consequence of the adhesion of the organs, cannot penetrate into the sac of the inverted uterus; then it might be erroneously believed that we had to do with a polypus." Setting this last objection aside, we doubt entirely the applicability of such a means of diagnosis in this case as that proposed by Malgaigne. The urethra of the female is placed in such a direction in relation to the other pelvic contents, that if the stem of an ordinary male catheter be held in it, the apex of the instrument, when turned backwards, will look posteriorly to the hollow of the sacrum, and cannot without lacerating the urethral connections, be made to return downwards towards the vagina. To enable it to do so, the instrument would require to be curved at an acute angle, and not at an obtuse,—and if of the former shape it could not be made to pass into the bladder, and even if passed could not probably be used with safety. We make these remarks after having tried repeatedly the experiment upon the dead subject.

A more safe and easy means of distinguishing a polypus from a partially inverted uterus, will be found in the measurement of the uterine cavity, by the introduction of the Sound. In some doubtful instances its aid will afford us a certain mode of completing the diagnosis in this, a class of uterine cases, in which, above all others, the prognosis and treatment are almost entirely dependent upon the accuracy of our diagnosis.

To avail ourselves of the information afforded by the measurement of the Bougie, it is to be held in view that in polypus the depth of the uterine cavity is not necessarily diminished, but sometimes the reverse, while in inversion it is always diminished to a great and notable degree.

In four cases of polypi, of considerable size, projecting through the os uteri, and which I have had occasion to remove, within the last few months,—the Bougie in all, when passed by the side of their pedicles into the interior of the uterus, showed its cavity to be of the natural depth. In some preparations I have seen the cavity elongated, in consequence probably of its distension by the polypus, previous to the protrusion of the latter. On the other hand, in partial chronic inversion of the uterus, with the fundus uteri passed downwards and projecting through the os, the uterine cavity must be necessarily diminished on all sides in depth by this doubling up of the organ; and further, this diminution of its depth must be proportionate in its degree to the degree of the inversion, so that ultimately, if the inversion becomes, as sometimes happens, complete, the cavity will, of course, be entirely obliterated. In a common case of such partial inversion and protrusion of the fundus as is liable to be confounded with a polypus projecting through the os, the depth of the interior cavity would be found diminished, at least by more than a half, or might measure on all sides about an inch or less in depth, instead of the usual length of two and a half inches.[1] In making this measurement with the Bougie, it will always be requisite to ascertain accurately that the depth of the uterus is lessened in the same way at every point around the stem of the tumour, otherwise we might mistake a polypus, which by adhering to one side of the cavity, diminishes by the presence of its pedicle, the depth of that one side merely, for an inversion of the uterus which diminishes the depth of the cavity equally on all sides. It is for this reason that we believe the employment of the finger alone, to ascertain this shortening of the uterine cavity, as recommended by Boyer, (*Maladies Chirurgicales*, tom. x. p. 583) and Dupuytren, (*Leçons Orales*, tom. iii. p. 535) is quite insufficient. In most cases it is too large a body to be passed without force and pain, if at all, into the contracted cervical cul-de-sac,—and even if passed to its full depth, it could never leave us perfectly sure that there was not a narrow communication at some point with the uterine cavity beyond.

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[1] In a case in which the inverted uterus was tied in the Lyons Hospital, under the idea that it was a polypus, the patient died on the fifth day. On the post-mortem examination, the vagina and uterus were of the natural size; and the uterine cavity was on all sides reduced to *seven or eight lines in depth*, (dans tous les points de son etendue sept ou huit lignes de profondeur). Petit, in whose practice the case occurred, relates that four "Maitres de l'Art," after a careful tactile examination, all pronounced the

As a general rule then, it will, we believe, be found that, in cases of tumours projecting through the os uteri, and when the other symptoms leave any doubt as to whether the tumour be a true polypus or merely the fundus of the organ chronically inverted, the employment of the Uterine Bougie will enable us to decide the diagnosis, and hence also, in a great measure, the prognosis and treatment, by the positive or negative information which it affords with regard to the shortening or non-shortening of the uterine cavity. For,—

1. If the Bougie passes into the uterine cavity to its usual depth, of two inches and a half or more, the disease is not inversion of the fundus,—a fact, the certainty of which may, while the Bougie is still in utero, be farther corroborated, by the fundus *in situ* being actually felt through the hypogastric walls whilst it is pushed forward on the apex of the instrument, or through the rectum, whilst by the same means it is retroflected in the mode already described upon the front wall of the bowel. In this case the tumour is one which is in general safely and easily removeable. But,—

2. If the uterine Bougie cannot pass at any point around the stem of the tumour to a greater extent than about one inch, the uterine cavity may be considered as shortened by inversion, and the protruding mass cannot be interfered with without imminent danger to the patient. When in any case this last point is positively ascertained, another consideration may arise.—Is the general shortening of the uterine canal the result of simple inversion of the uterus, or of inversion complicated with, and produced by the attachment of a polypus to the interior of the fundus uteri? The decision of this point may be of the first importance, both as regards the propriety and the safety of any further interference. If the disease be simple inversion, no operation would be attempted, unless under the call of very anxious and urgent reasons. If the inversion be the result of the weight and dragging of a polypus, then by removing the latter, the uterus may itself become replaced, and the patient be restored to the enjoyment of perfect health. In making this additional diagnosis between simple and complicated inversion, the anterior history of the patient, and the characters of the tumour, may be sufficient to guide us, but both again may be liable, in particular instances, to lead us into error. The length of the whole interior of the uterus, as made up by the *double* measurement, first of the depth of the cul-de-sac of the cervix, and secondly, of the inverted portion from the roof of this cul-de-sac to the apex of the inverted tumour, may afford us more positive information. When added together, the two measurements will, in a case of simple inversio uteri, not exceed much, if at all, the normal length of the cavity of the organ;—in a case of inversion complicated with polypus, they will *exceed* this standard in a ratio proportioned to the size of the polypus and the probable elongation of the uterine tissues which it has produced.

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inverted uterus in this instance to be a polypus. *Recueil des Actes de la Société de Santé de Lyon*, (1798) p. 103.

"The *only danger*," says Dr Gooch, "attendant on the operation on polypus is, that the ligature may include a portion of the uterus." (p. 264). This danger, which has led to a fatal result in many master hands,[1] will be easily avoided, by the previous use of the Bougie in the way we have suggested, so as to ascertain the presence or absence of any co-existent degree of inversion. If the polypus be found complicated with inversion, but yet has a sufficiently marked narrower part or pedicle connecting it with the fundus uteri, its removal in the usual way, by the ligature or knife, may be safely accomplished, if great caution be employed. If the polypus, however, adheres by a broad base, and is decidedly fibrous or cartilaginous in its structure, the case would probably form an appropriate one for the operation that has been had recourse to in several instances of late for the removal of fibrous tumours in the wall of the uterus,—namely, dividing by a longitudinal or crucial incision, the thin layer of uterine tissue, covering the projecting part of the tumour, and afterwards enucleating the mass of which it consists. In this way the source of danger pointed out in the quotation from Dr Gooch would be so far avoided.

In the preceding observations I have not adverted to the distinction between *complete* chronic inversion of the uterus, where the cavity is entirely effaced, and polypus of the neck or lips of the uterus. I have reserved this particular and sometimes puzzling case for consideration under another head.

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[1] *See, for* example, a case of Dr Denman's in his *Introduction to Midwifery*, p. 106, (*Ed. of* 1816). *Herbiniaux, Traité sur divers accouchmens, &c.* tom. ii. p. 85, and obs. xvii. &c.

PART SECOND.

REVIEWS.

The Physiology of Inflammation, and the Healing Process. By BENJAMIN TRAVERS, F.R.S., *Surgeon Extraordinary to the* QUEEN, *and Surgeon in Ordinary to* H. R. H. PRINCE ALBERT. 8vo. pp. 226. London, 1844.

THE author of the treatise before us is so very favourably known by his previous labours, to the profession, not only in this country, but wherever Medicine is studied as a science, that any contribution from his pen must influence to a very considerable extent, both the doctrines and the practice of many of his readers: the task, therefore, which he has undertaken, is one of vast responsibility and impertance. The physiology of inflammation and the healing process comprises the rudiments or first principles of the science of Surgery, and undoubtedly, just as the laws which regulate these processes are understood and acted on, will the career of the practitioner be successful or otherwise.

The labours of microscopic observers have exposed some long-cherished errors in the departments of physiology and pathology:—modern sceptics and orthodox Hunterians, have both been shown to be somewhat in the wrong, and if the points in dispute between these parties admit of being reconciled or adjusted, we agree with the author in thinking that the practical pathologist who can employ his microscope and his mind to their study, is better suited for the task than either the pure physiologist or the mere clinical student. Mr Travers' philosophical cast of intellect, his profound erudition, and his extensive knowledge of both normal and morbid anatomy, render him peculiarly well suited for the investigation he has undertaken: indeed it rarely happens that a subject which requires further elucidation falls into such hands. The work is divided into twelve chapters, and the subjects are discussed in the following order:—I. Preliminaries. II. Direct effects of stimuli and of blood. III. Local symptoms of inflammation. IV. Constitutional symptoms, or effects of inflammation on the system. V. The processes of inflammation—effusion. VI. Adhesion. VII. Periodical phenomena of wounds, illustrating the progressive stages of the healing process—dried specimens. VIII. Of granulations and pus: suppurative inflammation. IX. Periodical phenomena of wounds, illustrating the progressive stages of the healing process,—recent appearances. X. Of ulcerative inflammation. XI. Of cicatrization. XII. Of gangrenous inflammation, and gangrene.

In the following remarks we will follow the order which the author himself has adopted.

I. PRELIMINARIES.

The term inflammation is applied to phenomena resulting from a change of the properties and distribution of the blood, which are exhibited in all the tissues, modified by the peculiarities of the textures. It is so generally associated with the diseases incidental to the animal body, that it may be said to comprehend in its subdivisions, all the varieties of organic change. The following positions are considered essential to a right understanding of the subject of inflammation. 1. The occasional causes of inflammation are many and various, the immediate cause—an interruption to the circulation and uses of the blood in the part effected,—is one and uniform. It is always a forced state. 2. The interruption referred to varies in degree, as inflammation varies. 3. The processes of inflammation are several, and bear reciprocal relations to each other. 4. The tendency of inflammation to preserve or destroy does not designate its pathological character. 5. Inflammation is not seated exclusively in either the fluids or the solid parts of the system,—these parts forming a homogeneous whole, cannot be disjunctively affected. 6. Inflammation is not the less inflammation although one or all its symptoms be not fully developed, or though it yield to stimulants even at its commencement. A joint, an eye, or even the lungs may be destroyed by inflammation, without pain. 7. The mechanical, chemical, and vital properties are all implicated and altered by inflammation, but any of these are competent to originate inflammation. 8. In order to the production of inflammation, the exciting cause must be of a certain extent and duration. A certain amount of provocation is necessary to produce the nisus, and the subsequent permanent phenomena characterizing the inflamed state. 10. When the inflamed part has regained its former sanity, the inflammation is said to have "terminated by resolution." Each of the preceding positions is supported by very appropriate illustrations, and arguments cogent and satisfactory.

II. DIRECT EFFECTS OF STIMULI AND OF WOUND.

The first effect of a stimulant fluid, is to arrest the circulation at the part, as is seen in the transparent web of a frog's foot, when placed in the field of a microscope. The vessels become delated, and the pink colour heightened. Remote from the stagnant centre, the circulation becomes more rapid and vigorous, but we will give the result of the author's observations in his own words. The first stimulant used was a saturated solution of common salt.

"At the expiration of eight days from the application of the *solution of salt*, I found that the greater part of the capillaries continued loaded with motionless particles of blood, even as far as their junction with the large vessels parallel to the toes. The passive capillaries had an increased diameter, and the accumulated particles gave a deeper red colour to them. A circulation going on in small vessels, at distant intervals of space, was so much slower than usual, as distinctly to allow the form of the globules to be seen, as they proceeded by an oscillatory movement. The web consisting of a double layer of membrane, the active capillaries were seen crossing the passive ones on a different plane. The whole character of the circulation suggested the idea of its being subservient merely to maintain the vitality of the part. The web, to the naked eye, presented all the characters of the inflamed state, such as might be expected twenty-four hours after the application of the stimulus, yet the phenomena revealed by the microscope exhibited a state of inaction and dilatation of at least one-eighth of the whole vascular system of the inflamed part. The web would in fact represent an injected preparation, but for the languid circulation going on in the small portion of the capillaries above described. On the tenth day, the circulation was obviously recovering, *i. e.* going on in a larger portion of the web, the globules moving freely through many of the previously stagnant channels, but slower than usual.

"On the twelfth day, the circulation was re-established over the whole web, which remained thicker and more opaque than the healthy web, but without other change. The colour had disappeared with the resolution of the congested state of the capillaries.

"The application of *ammonia* produced an instant increase of velocity, then stagnation, with the deepened tint of colour and enlargement of vessels. The second and following days, it presented exactly the same condition as the salted web, except that the proportion of the re-established circulation was somewhat greater, and the motion of the blood particles comparatively quicker. The colour of the passive and distended capillaries was as bright as in those stimulated by common salt; in both the two layers of capillaries in the web were very distinctly demonstrated, and served clearly to show the difference of diameter in the active and passive capillaries, the latter apparently dilated by turgescence." Pp. 35-37.

The web of a frog's foot was divided, and the edges immediately retracted; after some seconds, blood globules of various shapes escaped from the divided veins on one side. On the second and third days, the edges of the wound were divested of circulation, and were thickened and opaque; the surrounding vessels were circulating the blood slowly. On the eighth day, the edges appeared thickened and smooth; the circulation contiguous to them was re-established, and that in the neighbourhood was quicker than usual. On the ninth day, the circulation was re-established in the edges of the wound. On the twelfth day, the angle of the wound was obliterated, and the web shortened.

III. LOCAL SYMPTOMS OF INFLAMMATION.

Pain, swelling, heat, and redness are diagnostic of inflammation; either may be present in the absence of inflammation; the two latter transiently, and more rarely than the two first.

1. *Pain.*—Inflammation may exist without perceptible sensation; and severe pain may exist without inflammation, as is exemplified in pure neuralgia. To whatever region the sensation of pain may be referred, its real seat is in the brain. In the sound state of the system, inflammation is seldom unattended with sensations more

or less painful, although the degrees are as diverse as the varieties of pain.

2. *Swelling* is an inevitable effect of the overloaded state of a part; in the first stage, it depends on a dilated state of the capillaries, and afterwards, on extravasation or effusion into the tissues. The pain is always most severe when the texture of a part does not admit of swelling.

3. *Heat.*—The actual difference in the heat of inflamed and healthy parts, as ascertained by the thermometer, is less than the seeming difference, both to the subject and examiner; the nerves measure the sensation rather than the degree of heat; and this is a widely different scale from those of Fahrenheit, or Reaumur. The sense of heat subsides as the inflammation declines.

4. The *Redness* depends on the demonstration of previously invisible vessels. In general, the readiness with which a part under inflammation assumes a red colour, depends on the intensity of the action, and the cellularity and vascularity of the structure.

IV. CONSTITUTIONAL SYMPTOMS, OR EFFECTS OF INFLAMMATION ON THE SYSTEM.

This chapter is one of extreme interest; it will not admit of abridgement or condensation. It must be carefully read and studied: we regret our limits will not permit us to give many parts of it. Mr Travers is inclined to think that the first morbid impression is made upon the nervous system of the injured or inflamed part, and hence transmitted to the nervous centres, and thence to the organs of circulation. We are sure our readers will excuse us for quoting the following passage; in theory the doctrines inculcated are very generally acquiesced in, but we fear they are sadly neglected in practice. How very frequently do our newspaper accounts of accidents terminate thus:—*Medical aid was fortunately at hand, and the sufferer was copiously bled!* Bled! because it was necessary to do something for appearances' sake, we presume.

> "There are two false doctrines concerning blood-letting for inflammation, which cannot be too strongly condemned; the first, anticipatory blood-letting, by which I mean, the large and repeated detraction of blood before inflammation, being considered inevitable, has actually manifested itself—on the hypothesis of starving the action, and thus rendering it tractable—which is a direct attack on the vitality, and fatally perverts the action, if it do not destroy the resisting powers of the system. The second, continuing the employment of the lancet so long as the last drawn blood exhibits the signs of inflammation, which if drained to the last drop it would do; or, in other words, not reflecting that there is a line beyond which the practice becomes destructive instead of remedial; and that there are many inflammations which do not admit of arrest by depletion, and upon which other modes of treatment are efficient for this end, even though not an ounce of blood be drawn. Many lives have been sacrificed to the prevalence of these irrational and absurd notions, and many preserved in their extremity by being fortunately placed beyond the reach of the surgeon; especially, I am induced to believe, in military practice." Pp. 58, 59.

The principal change in composition which the blood drawn under inflammation presents, is, that it becomes sizy; the fibrine and colouring matter tend to a more complete separation than in health. This change is gradually wrought in the passage of the blood through the inflamed parts, until it extends to the blood over the whole system. The change is accompanied by a more rapid and vigorous movement of the heart.

V. THE PROCESSES OF INFLAMMATION—EFFUSION.

When inflammation sets in, the natural secretion of a part is arrested, and the inflammatory is substituted. Palpable deviations in the characters of secretions, in addition to quantity, are frequently observed antecedent to inflammation. The author thinks that

> "The first change external to the vessels in inflammation is not a permanent change, and looks like a measure of temporary relief to the overloaded vessels which surround the inflamed centre. It is an aqueous exudation from the colourless capillaries into the adjoining cellular texture. It would seem to be a passive mechanical effect, as it doubtless often is, but for the precedence of other unequivocal signs of inflammation. Its appearance is by no means uniformly indicative of the strength or activity of inflammation; in some being scarce noticeable, in others occurring to an extent over-proportioned to the degree of inflammation, as marked by other symptoms. The loose texture of the connecting membrane seems to favour it, judging from the greater frequency and extent in such parts as abound therewith, and *vice versâ.* It undergoes absorption in variable times, but however considerable, seldom remains beyond a few days, perhaps hours.
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> "It may present an admixture of the colouring matter of the blood, in which case its disappearance is not so speedy. The escape of entire blood seldom attends inflammation, nor does extravasation, *quoad* blood, induce inflammation; but enough of the colouring matter, to render serous effusion sanious is not uncommon." Pp. 65, 66.

The complete absorption of effusions from injury or pressure in a very short time, tends to prove that the effused fluid in such cases is either a preternatural transpiration of the aqueous part of the blood through the capillaries, or a sudden suspension of action of the lymphatic absorbent vessels, and not a part of the fluid blood separated by inflammation.

VI. ADHESION.

This chapter is devoted to the discussion of a most important subject, and is perhaps the most interesting in the work. When a dissolution of continuity takes place, we find independently of, and subsequently to, the effusion of blood, a serous exudation into the cavity; organizable fibrine coating the sides, and closing the mouths of divided vessels, and blood coagula in their interior, thus presenting to a certain extent distinctly, the three constituents of the circulating mass. The following gives a very clear account of the manner in which fibrine is deposited.

> "In a wound with loss of substance, which offers the most complete example of organization, the fibrine is very gradually deposited, little by little, at its margin, preserving at all points a uniform line of approximation to the centre. The margin is elevated, rounded and opaque at its base; its salient edge is thin, sharp, and transparent.
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> "This presents no appearance of vascularity during the process, but the circumjacent vessels are observed to multiply and extend their branches of communication or anastomosis. These processes go *pari passû* towards the healing

of the breach; the fibrine becoming fuller and more opaque where it adjoins the original texture, and in the same proportion encroaching upon the void space. The wound, preserving its figure, continues to diminish as the surrounding parts become organized by the production of transparent capillaries from the nearest vessels in forks and arches of communication one with another, parallel for the most part to the margin of the wound. These vessels are visible in fine striæ, before circulation can be detected. A single globule is first observed to enter, and this is followed by more, which have only an oscillatory motion for many hours, a flux and reflux derived from the impulse of the circulation in the parent capillaries; which see-saw movement continues gradually gaining in the direction of the nearest neighbouring vessel, into which at length the pioneer globules enter in single file. The next stage is the abrupt and rapid occasional transit of a globule, or of several isolated globules in succession, through the new channels, just as drops of rain course one another down a window-pane in the same track.

"The conclusion of the process is a regular uninterrupted transition of a file of globules, by which a cross branch of communication is established. This is the simplest example, but the complications of anastomosis proceed in a similar manner. Instead of the meeting of parent vessels, one new vessel encounters another, and they join and divaricate at an angle; or one meeting another current in an opposite direction, is reflected at an angle so acute as to be refluent upon itself to the vessel from which it emanated, or to contiguous ramusculi from the same parent, and thus arches and circles forming a mesh of anastomosis are established.

"The nascent blood-vessels appear in the first instance destitute of colour, by reason of the paucity of the blood globules which they convey. When perfected, enlarged, and multiplied, they become the nourishing vessels, arteries, and veins, of the new texture, the motion of the blood being, as they are arteries or veins, conformable to that of the original texture. The appearances of vessels striking directly across the newly-deposited lymph to meet their opposites—of vessels seemingly engrooved in the lymph by a train of blood globules pioneering their track—of insular specks and zones in the fibrinous deposit, which generate and throw off pencils of vessels for anastomosis with each other, and with those proceeding from the margin, are doubtless presented at different stages of the process; but being the result of occasional and partial observations, have been inaccurately dated and explained." Pp. 76–78.

VII. PERIODICAL PHENOMENA OF WOUNDS, ILLUSTRATING THE PROGRESSIVE STAGES OF THE HEALING PROCESS—DRIED SPECIMENS.

The Royal College of Surgeons have enriched their museum by the preparations illustrative of the "*Healing Process*" in daily stages, from the infliction of injury to the completion of the repair, prepared by the late Dr Todd of Brighton; this chapter is chiefly occupied with their description; and in Chapter ix. the author's own experiments are detailed; both are extremely interesting, but cannot be abridged with advantage.

VIII. OF GRANULATIONS AND PUS—SUPPURATIVE INFLAMMATION.

The advanced stage of inflammation provides repair for solution of continuity and loss of substance. This consists in the formation of granulations into which the lymph pellicle is elevated, so constituted as to form a temporary apparatus for the secretion of pus. The figure and colour of the granulation are determined by the state of its circulation; where that is feeble, the granulation is flat and spongy, and of a pale or livid colour; where it is vigorous, the granulation is conical, and of a light florid colour. The product of granulations is a yellow, unctuous inodorous fluid of a cream consistence, which is necessary to their function. The granulation when first formed is hollow, and the secretion of pus within it is progressively substituted by the secretion of the material which gives the permanent figure to the new solid; the pus decreases as the organization proceeds. Mr Travers challenges the proof that purulent fluid is a transfiguration of the mucous, or of the blood particle, or the broken down solid, the change taking place within or without the vessel.

Pus is always an inflammatory product; in its healthiest condition it is elaborated by the granulation gland; and when this is wanting, by the secreting surface. The formation of pus, in conjunction with another act of inflammation, serves to open a communication with a contiguous surface, either for the purpose of liberating matter incapable of organization, or to efface lesions by granulation. The following is the only quotation we can afford to make from this very valuable and interesting chapter:

> "*Abscess.*—The continuance of inflammation beyond the term required for union in simple solutions of continuity, in cases which are beyond reparation by the direct adhesive process, and in phlegmon or adhesive deposit unaccompanied by external lesion, entails an addition of the suppurative to the adhesive action. This is announced by a more or less defined swelling, a sensation of acute throbbing pain, and a pink blush upon the raised and stretched teguments. The swelling, firm at its base, and softer toward the centre, gradually assuming a conical form, indicates an increasing elasticity, and at length the presence of a fluid undulating or fluctuating between the fingers applied to its opposite sides. By a process of thinning, hereafter to be described, the contained fluid approaches, and at length reaches the surface; the darker or more livid tint, the eccentric 'rides' of the surrounding skin, and the cracking and peeling of the apex, announce the yielding of the integument. The cavity, so formed, is surrounded by an effusion, and lined by a pellicle of lymph (pyogenic membrane) whence the pus is furnished. The abscess, having discharged its contents, may terminate in gradual contraction and obliteration of the cavity, by the adhesive process, now capable of concluding the action; or being, on the contrary, exposed and extended by ulcerative inflammation of its anterior wall, it may be converted into ulcer. A section of an abscess from circumference to centre presents the condensation of the wall by the deposit occupying the cells of the cellular membrane, the secreting membrane, the semi-solid flakes of lymph, and the collection of pus forming its contents; the arrangement, appearance, and proportion of each varying according to the stage of the suppuration.
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> "The act of suppuration is often productive of fever, where the action has appeared to be strictly local. The pain attending it is peculiar, and modified by the acuteness of the inflammation, the rapidity and extent of the suppuration, and especially its seat. In a loose unresisting texture it is least painful, indeed is often accidentally discovered; in a firm resisting texture the patient's suffering is most severe, and the nervous system sometimes becomes excited and prostrated to an alarming degree. The sympathetic inflammatory fever announces itself by rigors in the setting-in of the suppurative action, provided its extent and situation be such as to produce fever, or that a febrile disposition be present. The fever subsides on the free discharge of the abscess, if it be attended by no other malady." Pp. 124-126.

X. OF ULCERATIVE INFLAMMATION.

In this chapter, the exceptions taken by some modern pathologists to Mr Hunter's theory of inflammation are disposed of seriatim, and in a very masterly style; the arguments do not admit of abridgement; but the following passages are so much to our liking, that we cannot avoid quoting them:

"An ulcer is a patent and familiar illustration of the pathology, not only of the ulcerative, but of all the processes of inflammation; and as it is that vital action by which not only the dead are separated from the living, but the living are removed, which have undergone such organic changes, or lost so much of their vital power as to be incapable of resisting absorption, it may be regarded, as before observed, as an agent for life and death, and if in one case 'the natural surgeon,' in another the natural destroyer." P. 196.

"To know the character of ulcers and treat them accordingly, is a subject of the first importance to the practical surgeon, and well worthy of his science, though often not so regarded. They admit of a general classification, but present many varieties and anomalies. The great distinction is the presence or absence of the ulcerative inflammation, *i. e.* the morbid condition and action of the absorbents, by which the ulcer was formed. An inflamed is an ulcerative ulcer, so is an irritable, and more or less so is also an indolent or callous ulcer; in the gangrenous or sloughing ulcer, ulcerative inflammation is, as in gangrene, a necessary remedial agent for the purpose of separating the dead from the living parts, thus clearing the surface for sound granulation, and the edge for skinning. It is not necessary that ulceration should have existed prior to granulation, although granulation must succeed to ulceration; an ulcer has no other means of repair. The adhesive, then, is the curative termination of ulcerative inflammation; and if for any reason the part is incapable of this action, disorganization and death is the consequence. Cicatrization is the finished adhesive action, that which completes the purpose, and therefore terminates the existence of granulation." Pp. 197, 198.

XI. Of Cicatrization.

Cicatrization is the completion of the process of granulation: its progress depends on the size and condition of the sore, and is retarded by the promotion of the secretion from the sore. Thus a *sinus* cicatrizes very slowly, because the secretion of pus is maintained by it, and only its extremities are in communication with the skin.

When an ulcer is formed upon an ancient cicatrix, both granulation and cicatrization are retarded, in consequence of the previously existing adhesions having rendered the free cellular texture deficient, and the imperfect power to heal of adventitious textures. The following passage we give in the author's own language:—

"In the ordinary normal process, the surface and margin of the ulcer must correspond for the production of skin; no ulcer can heal which has a loose hollow margin, or a thick perpendicular edge, or one inverted or everted; nor while either of these conditions holds, does the ulcer cease to secrete, however unhealthy the secretion. It is common to see a part of the circumference of an ulcer prepared, and on the same side the surface ceasing to secrete and almost ready to heal, cicatrization having actually commenced, but it is partial, simply narrowing the area of the ulcerated surface on that side. In such a case, the ulcer is cachectic, not healthy. In the latter, the skin is fixed and bevelled down to the granulation level, and presents a fine white line of union, like the ciliary ligament of the eye, at every point of the circumference: the granulation is uniform and smooth, and looks as if covered with a transparent pellicle; its colour, now less vivid than when in full secretion, is of a pale rose tint. Around and beyond the marginal line fine radiating lines or gathers may be discovered converging towards it, the result of an equal contracting process. In this stage, the formation of the skin, *i. e.* the opacity and consequent whiteness of the cicatrix, is almost synchronous with the cessation of the secretion.

> "It has been a question, whether skin is formed from the margin by the vessels of the skin, or upon the surface, by the vessels of the granulations? This I have no difficulty in answering. Certainly by the surrounding skin." Pp. 203, 204.

XII. OF GANGRENOUS INFLAMMATION, AND GANGRENE.

The pain in the gangrenous inflammation is more rapid and intense than in other modes of inflammation, and in proportion is short-lived: the heat is only augmented in the commencement, and more complained of by the patient than perceptible externally. The surface has a peculiar dusky red appearance, often mottled, turns purple, and then black, and the swelling diffused and soft, becomes inelastic, and next emphysematous; vesicles appear, the pain ceases, the surface assumes a pale ash colour, by desquamation of the cuticle.

The depth to which gangrenous inflammation extends is subject to great variation: it may be confined to the integuments or superficial parts, or may extend through the whole textures of a limb. The author has seen both the upper and lower extremities of the same side affected in the same patient. Such cases generally depend on nervous prostration following injury or operation. Functional defect of circulation, arising from the deteriorated quality of the blood, or other causes of defective innervation, excites gangrenous inflammation, especially of the lower extremities.

Chronic gangrene is generally an idiopathic affection; it affects the extremities only, and the inferior more frequently than the superior; and is generally unattended with pain or contiguous inflammation.

The arrest of the circulation, whether sudden or gradual, is the proximate cause of this inflammation.

The fever attendant on gangrenous inflammation is early marked by powerlessness of the circulating system. The pulse has never the full firm swell, nor the hard and contracted stroke of fever in other modes of inflammation. The author concludes,

> "Gangrenous inflammation, always originating in weakness, whether violence be combined with it or not, is never a process conservative of structure; and in this regard stands contrasted to all other inflammatory processes. It is by the promptitude and activity of these that its destructiveness is limited, and its mutilations, as far as possible, repaired. The absence of hemorrhage, owing to the coagulum of death, which chokes all the vessels far above the line of separation, is the temporary stay to its fatality; the adhesive process taking the lead, as has been shown, of the ulcerative, converts this into a permanent safeguard, and, with the additional aid of the suppurative, not only follows up and repairs the line of breach, but assists to remove the rubbish." Pp. 225, 226.

We have now gone over the table of contents of Mr Travers' work. The subjects discussed are of paramount importance, and the author has evidently prepared himself well for the task. The book, to be understood, must be carefully and diligently perused; and we strongly recommend it to every one who wishes to practise Surgery on a scientific basis.

The Surgeon's Vade Mecum. By ROBERT DRUITT, *Surgeon.* Third Edition: Illustrated with ninety-five highly-finished wood engravings by Bagg. 12mo, pp. 572. London, 1843.

The fact that Mr Druitt's work has already reached a third edition, sufficiently proves that such a book was required by the profession, and indicates unequivocally the opinion entertained regarding the manner in which the laborious task has been executed. With the two previous editions we are well acquainted; we have carefully compared the present volume with its predecessors, and have no hesitation in stating that it is an improvement in many respects. It contains about fifty additional pages, embracing all the recent discoveries and improvements in Practical Surgery. The chapters which treat of the theory, or pathological principles, are rendered somewhat shorter than before—an alteration which we consider extremely judicious, as it is altogether impossible to condense the Theory and the Practice of Surgery into such limits as will suit the student or busy practitioner. The author, we think, has fully succeeded in the object he had in view in writing the work: he has produced as complete a system as possible of Surgical Science and Practice, *in the smallest practicable compass*, and, we may add, *at the cheapest possible price.* His integrity and moral firmness have not allowed him to be biassed either by name, school, or party; and he has stated the results of his conscientious convictions firmly, clearly, and impartially.

Mr D., in the preparation of this work, has evidently ransacked all the modern, as well as the standard treatises of by-gone times: some idea of his labours, as well as of the real value of the book, may be gathered from his own statement.

> "With respect to the sources from which the materials are gathered, I may say that I have taken as a foundation those doctrines which the present generation has inherited from John Hunter, Pott, B. Gooch, J. Bell, and the other great masters of the latter end of the last century. The main body of the work is supplied by the labours of Astley Cooper, Abernethy, Travers, Lawrence, Guthrie, and the other great surgeons of our own time; nor must the writings of Liston, Herbert Mayo, Samuel Cooper, Sir Charles Bell, nor the admirable course of Lectures delivered at King's College by Joseph Henry Green be omitted; but most deeply, indeed, am I indebted to Sir B. Brodie's masterly contributions to almost every department of surgery. Reference has been made, also, on most points of pathology to the dictionary of Dr Copland, and the Lectures of Dr Graves and Dr Watson. And
>
> (ὣς ἀνδρῶν γενεή· ἡ μὲν φύει, ἠδ' ἀπολήγει.)"

To such individuals as have not an opportunity or sufficient spare time to study the original sources referred to, this treatise must prove a most valuable boon. Much of the historical and physiological portion, as well as minutiæ of detail, they cannot expect to get within its boards; but that portion which is really practically useful at the bedside, will be found—abridged—but still in a form at once clear, distinct, and interesting.

Mr Druitt possesses, in no ordinary degree, the power of condensing the opinions and statements of others, without in any degree impairing the force and clearness of the original; and we cannot bestow too much praise on the tact and discrimination with which he separates the wheat from the chaff. The selections he has made from the periodical literature of the day are very judicious, and prove that he has been in search of *facts*, and not of *names* wherewith to enrich his work.

The illustrations are executed in the very highest style of wood engraving, by the celebrated Bagg: some idea may be formed of the artistical department of the undertaking, from the fact, that we have no less than eleven cuts illustrative of the various forms of dislocation: seven of hernia; and nine of amputations.

We select a few illustrations of the style and manner of the work at random: the production as a whole is very equal.

OF CHRONIC INFLAMMATION.

" *Definition.*—Inflammation is said to be chronic when it is slow in its progress, and tends to last long, or even indefinitely. Its *consequences* may be, adhesion, thickening, induration, ulceration, or suppuration.

" *Causes.*—Its causes may be local or constitutional. Thus it may in the healthiest subjects be caused by any slight and continued irritation; or it may be the sequel of acute inflammation, the vessels being left dilated, weak, and irritable. But more frequently, it is the local manifestation of some constitutional disorder, such as general debility, with a tendency to local congestion,—or overstimulation and plethora,—or disorder of some important organ, as of the stomach or liver.

" *Treatment.*—The indications are, to remove all constitutional disorder, to allay local irritation, and restore the tone of the distended vessels.

" *Constitutional Treatment.*—On this part of the subject, our space forbids us to do more than make a few remarks on the most obvious forms of constitutional derangement, which accompany chronic inflammation, and on the remedies that are known by experience to be most useful as alteratives.

" If the patient is bloated and plethoric, with red lips and conjunctiva, and a full hard pulse, and indulges freely in stimulating food and drink, and has unimpaired digestive organs, so that blood is constantly formed in too great abundance, the diet must be lowered and restricted chiefly to vegetable substances; free exercise should be taken in the air; the bowels should be actively purged with calomel and black draught; and then a course of alterative medicine should be commenced in order to increase the secretions, and relieve the system of its superabundant material. Mercury, given in small doses at bed-time, with saline aperients in the morning, deserves to be mentioned first; Plummer's pill, in doses of gr.v. every night, is an excellent form; but in severe and obstinate cases, it may be necessary to administer larger doses of the mercury, so as to bring the system fully under its influence; taking care, however, to desist at the least appearance of ptyalism, and maintain a gentle and continued, but not violent action. Next to mercury, tartar emetic given in very small doses three or four times daily, is most deserving of notice: it is highly advantageous to combine it with mercury.

" But if the chronic inflammation occur in an enfeebled and irritable constitution, (as when it succeeds an acute attack that has been too actively treated by bleeding and mercury,) a nutritious and liberal diet must be adopted, wine and tonics should be administered, in order to improve the digestion and vigour of the circulation; irritation and pain must be allayed by sedatives and opiates; and the secretions of the bowels be maintained by the gentlest laxatives.

"If the tongue is furred and red at its tip and edges, and there are heartburn, flatulence, pain at the chest after meals, and other signs of a weak and irritated stomach, the diet should consist of the plainest and most easily digestible articles; and small doses of alkalis be given after meals, whilst some tonic is given before them; and the bowels may be kept open by the compound rhubarb pill.

"If the complexion and eye are sallow, and the stools clay-coloured, a few doses of blue pill, with morning aperients, are indicated.

"When steel or bark is administered, it is always necessary to have a proper action of the liver and bowels, otherwise headach and feverishness will ensue.

"If the skin is dry and harsh, it should be stimulated by exercise, by warm clothing, especially flannel, by the flesh-brush or horse-hair gloves, and by an occasional ten minutes' immersion in the hot bath, 92°—102° Fah.

"In females, the uterine system must be regulated by the exhibition of steel, aloes, galbanum, or other emmenagogues, if necessary.

"Of the alteratives that are most useful in dispelling chronic inflammation, we have already mentioned mercury and antimony; next to these in importance is the iodide of potassium, in combination with tonics, sedatives, alkalis, iodine or steel, as circumstances may direct. Its powers of unloading congestion, allaying irritability, and restoring secretion, no one can doubt. Alkalis, especially the liq. potassæ, are of great service in full-blooded people, with scanty red urine; the best rule which we can give is, that they will most likely be useful if the face is flushed after meals. On the value of sarsaparilla, we shall speak when treating of scrofula. Serpentaria and senega are of great service in chronic inflammation of mucous membranes. Small doses of corrosive sublimate in tincture of bark, and the liquor arsenicalis, are also useful in certain cases; but their employment is so purely empirical that we cannot give any definite rules on the subject.

"*Local Treatment.*—This has for its object, to remove exciting causes, to unload the distended vessels and make them contract to their natural calibre, and to exercise the part in its proper functions, so that it may gradually resume the actions and sensations of health.

"*Local bleeding* must be employed at intervals to unload the vessels, whilst they must be excited to contract by various stimulants and astringents; such as the sulphate of zinc, copper, and alumina, nitrate of silver, salts of mercury, &c. The application of cold by pumping is often highly serviceable. These or any other measures will be known to do good, if they make the part feel stronger and more comfortable, although their first application may have been painful; but if they render it hotter and more vascular, it is a sign that they stimulate too highly, and may thus endanger the production of acute inflammation.

"*Counter-irritants* are more useful in chronic inflammation than in the acute, especially those which establish a permanent suppurative discharge." Pp. 39—41.

"Respecting the *opening of abscesses*, it may be laid down as a general rule, that if they point and become pyramidal, without enlarging in circumference, they may be left to burst of themselves; but that if they enlarge in breadth and circumference, without tending to the surface, they should be opened. In the following six cases, however, the surgeon's aid is imperatively demanded:

"1. When matter forms beneath fasciæ and other dense ligamentous textures, such as the sheaths of tendons, or under the thick cuticle of the fingers. Because, as these are absorbed or softened with the utmost difficulty, the pus, instead of coming to the surface, will burrow amongst muscles and tendons, extending the abscess to great distances;—producing extreme pain and constitutional disturbance, by its tension of the fasciæ which cover it, and pressure on the parts beneath,—endangering extensive sloughing, and impairing the future motions of the part. Hence, as a general rule, all abscesses beneath fasciæ, or among tendons, or under the thick cuticle of the fingers, should be freely opened, as soon as the existence of matter is suspected.

"2. When abscess is caused by the extravasation of urine, or other irritant fluids, or when it contains an unhealthy matter, which might diffuse itself and spread the disease; as in carbuncle.

"3. When an abscess is formed in loose cellular tissue, (as around the anus,) which would readily admit of great distension and enlargement of the sac, and more especially if the cellular tissue is partially covered with muscles, (as in the axilla,) under which the matter might burrow.

"4. In suppuration near a joint; or in the parietes of the chest or abdomen; or under the deep fasciæ of the neck; lest the abscess burst into the serous cavities, or the trachea; or cause compression of the trachea, œsophagus, or jugular veins.

"5. In suppuration of very sensitive organs, as the eye or testis.

"6. When it is desirable to avoid the scar which always will ensue when an abscess ulcerates spontaneously.

"And in the first three of these cases it is much better to make an opening before matter has formed, than to delay it for one moment afterwards." P. 55.

OF DISLOCATIONS GENERALLY.

"*Symptoms.*—The symptoms of dislocation are two;—(1.) *Deformity;* there being an alteration in the form of the joint,—an unnatural prominence at one part and a depression at another, together with lengthening or shortening of the limb. (2.) Loss of the proper motions of the joint, which is most frequently rendered stiff and motionless.

"*Causes.*—Dislocation may be caused by external violence, or by muscular action. And the circumstances that enable muscular action to produce it are, —a peculiar position (as when the jaw is very much depressed);—paralysis of an antagonist set of muscles;—elongation of ligaments;—or fracture or ulceration of some process of bone. Thus ulceration of the acetabulum permits the head of the femur to be dislocated upwards, and fracture of the coronoid process permits the ulna to be dislocated backwards.

"*Morbid Anatomy.*—Dislocation is generally attended with rupture of ligaments, whih may readily unite and heal by the adhesive inflammation. If the dislocation be left unreduced, the lymph thrown out around the head of the bone in its new situation becomes converted into new ligaments, and a new socket, which is lined with a smooth ivory substance, and not with cartilage; and a very useful degree of motion is often acquired. Meanwhile the old socket gradually becomes filled up.

"*Diagnosis.*—Dislocation may be distinguished from fracture, 1. By the *absence of crepitus.* For although a slight *crackling* is often perceptible, owing to an effusion of serum into the cellular tissue, it can hardly be mistaken for the *grating* of fracture. 2. By the circumstance, that mobility is *increased in fracture, diminished in dislocation.* 3. By *measurement* of the bone supposed to be broken, which, if broken, will be most probably shortened. 4. By the *patient's age;*—for fractures near joints are most common in the very young, and the aged—dislocations in the adult.

"*Treatment.*—The reduction of dislocations may be effected by fixing the part from which the bone has been dislodged, and extending the dislocated limb in such a manner as to draw the head of the bone into its socket, and in such a position as to relax as many of the opposing muscles as possible. After reduction, leeches, cold, and purging, must be used to prevent inflammation, and the joint should be kept at rest till any laceration of its ligaments may have healed, otherwise the dislocation may be perpetually recurring. But it will be necessary, before attempting reduction, to diminish the resistance offered by the muscles, if those which surround the affected joint be large, or if the patient be robust and plethoric. Bleeding to faintness; immersion in a hot bath for half an hour, and the exhibition of half-grain doses of tartar emetic, are the requisite measures. But they may be often avoided, if the reduction can be effected before the patient has recovered from the faintness consequent on the injury.

"*Compound Dislocation* is a dangerous accident, because of the acute synovial inflammation, rapid ulceration of cartilage, and violent constitutional disturbance, with which it is liable to be followed. The necessity of amputation will depend on precisely the same contingencies as in compound fracture;—old age;—bad constitution;—shattering of the bone;—extensive bruising or laceration of the integuments, so that the wound cannot be closed;—laceration of large blood-vessels;—or if it be the knee-joint. If the limb is to be saved, the dislocation must be reduced;—if the end of the bone protrude through the skin, and render reduction difficult, it must be sawed off, or the aperture must be slightly dilated;—the wound must then be closed, and covered with a piece of lint dipped in blood; and the case be treated as a wounded joint.

"*Dislocation and Fracture.*—Supposing the femur or humerus to be dislocated, and fractured also, Sir A. Cooper directs the fractured part to be first well secured in splints and bandages, and then the dislocation to be reduced without delay. Because, if the dislocation is not attended to till after the fracture has united, the difficulty of reducing it will be very much increased through the lapse of time; and, perhaps, the bone may be broken again during the forcible extension that will be necessary." Pp. 263—265.

We trust that we will, at no distant period, have the pleasure of noticing the FOURTH edition of Mr Druitt's work.

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Mémoires de la Société Médicale d'Observation de Paris. (Tome deuxième.) 8vo, pp. 596. Paris, 1844.

The Society by whom the work now before us has been issued was instituted more than six years ago: and yet, this is but the second volume of its Transactions. This reluctance to come before the public has arisen, we are informed in the preface, solely from a desire to have the memoirs carefully prepared,—"*soigneusement et laborieusement exécutées.*"

The volume contains some important papers.

The first is a memoir by M. Louis, on the Yellow Fever, which prevailed in Gibraltar in 1828, a work of which we need not give any account, as it is well known already, having been published in English at Boston in 1839, by Dr Shattuck. This is the first time that it has been printed in the original.

The second memoir is by M. Valleix, and is entitled, "*Researches upon the Frequency of the Pulse in Newly-born Infants, and in Children from seven months to six years old.*" This paper displays great industry upon the part of the author. Some of M. Valleix's observations have already, we think, found their way into the medical journals. We subjoin the general conclusions at which he has arrived:—

"1. In new-born infants, the pulse is less frequent than at the age of six months; the medium, when they are asleep, is 87; but as sleep causes some diminution in the frequency of the pulse, the normal average is a little higher, say between 90 and 100.

"2. Elevation of temperature, even when not sensible to the subject under observation, always accelerates the pulse, and to a notable extent for each degree. Ulterior observation would be sufficient of itself to inform us of the exact amount of acceleration caused by the increase of temperature.

"3. Although the pulse may have been constantly diminishing in frequency as the day advanced, it would be premature to conclude that this fact went to corroborate the statements of Dr Guy, who says that the pulse goes on diminishing from morning to evening. The children which I examined in the morning had always been previously fed, so that in them it is more natural to attribute to this cause, the quickness of the pulse during an early part of the day, and its subsequent gradual fall.

"4. The slightest movement is sufficient perceptibly to accelerate the pulse of children; impatience, or any emotion whatever, will produce the same result. Erroneous conclusions have been adopted from not taking these circumstances into consideration.

"5. The influence of sex is very marked, even in young children,—the pulse of girls being decidedly more frequent than that of boys.

"6. During sleep the pulse becomes very sensibly less frequent.

"7. From the seventh to the twenty-seventh month, the pulse does not undergo any manifest change as to frequency; it is, at an average, 126, without reference to sex; but when a separate calculation is made, it is found that the male average is 121, and the female 128. It must be recollected that these numbers indicate the frequency of the pulse under ordinary circumstances. If the observations were made only upon children in a state of perfect calm, 119 might be fixed as the male, and 124 as the female average.

"8. From some observations, not sufficiently numerous, the pulse appears to sustain itself a little above 100, up to the age of six years.

"9. The average number of inspirations in children, above seven months and under two and a half years, is between 30 and 32; and is to the number of pulsations as 1 to 4." Pp. 379, 380.

The next paper is by M. Ducrest, *ancien interne* of the Maternité of Paris. It is entitled, "*Researches regarding an Osseous Deposit upon the Internal Surface of the Crania of Women who have died in Childbed.*" The subject of M. Ducrest's paper was placed under the notice of the readers of the MONTHLY JOURNAL, in the Number for January 1842, by an extract from *Oesterreich. Med. Jahrbücher*, bd. xv. s. 501, taken by us, at second hand, from Fletcher's *Pathology* by Drysdale and Russell. This remarkable addition to the thickness of the skull during pregnancy was first described by Professor Rokitansky of Vienna, who almost constantly found it in the pregnant and puerperal state. For the detail of his observations, we must refer to the article already mentioned, as our limits do not admit of recapitulation. We must state, however, that M. Ducrest makes no allusion to the previous observations of Rokitansky; and the only notice which he takes of the labours of others regarding this curious subject of inquiry, is a passing expression of regret, that he has not been able to procure a copy of a memoir, which a friend informed him, had been published in the German journals on this subject.

The first portion of M. Ducrest's essay consists of a series of very fully detailed cases, some of which we subjoin.

"CASE 1. Catherine Duch. . . ., aged 26, died from an attack of peritonitis, forty-seven hours after a first confinement. Delivery took place at the full time.

"A lamina about two millimetres in thickness existed between the dura mater and the cranium, throughout the whole extent of the arch. It was red, analogous to cartilage in consistence, and sufficiently flexible to allow it to be rolled round, without being broken. It adhered to the cranium everywhere, excepting at the margin of the fracture caused by the hammer in opening the head; in this situation, several patches of varying breadth adhered to the dura mater. The detached surface of the cranium was unequal, cellular, and resembling in appearance the spongy tissue of bones. When the finger was passed along it, a sensation was communicated as if there were asperities depending upon a certain quantity of earthy salts having penetrated it. When sliced with the scalpel, an analogous sensation was experienced, although it cut easily. The internal surface of the meninges presented the same polish, and the same elevations and depressions, as the surface of the cranium, which had not this doubling, excepting that the furrows for the vessels were deeper. The patches carried off by the dura mater, in consequence of the manner in which the skull had been broken open, left numerous particles, adherent to the cranium by an extremely fine intermediate lamella, which was easily detached by the point of the scalpel. The internal surface of the cranium, when freed from this adventitious matter, remained perfectly smooth, and without any appreciable change of colour; the grooves of the vessels were a little enlarged, but the bone was in no way anormal as to hardness or thickness.

"Case 2. Adeline Mic. . . ., aged 23, sempstress, was delivered of a first child on the 26th October, and died on the 2d November 1842,—having lived, therefore, seven days after delivery. Upon dissection, there were found pleurisy on both sides, peritonitis, and pus in the lymphatic vessels.

"The cranium was white externally; its internal surface presented a general redness, depending upon a layer of new matter, extending over the whole of the arch, and offering depressions and elevations corresponding to the convolutions and anfractuosities of the brain, and the furrows for the passage of the branches of the middle meningeal artery. By scraping forcibly with the extremity of the scalpel, it could be raised in some places, but not in this; it was thicker upon the digital impressions than on the neighbouring eminences. It adhered everywhere to the internal table of the cranium, which under it retained its natural colour and consistence. The external surface of the dura mater was covered with numerous drops of black blood; it was a little more unequal, and of a light grey colour, in the course of the branches of the middle meningeal artery. Its thickness and consistence were not changed; the internal surface was injected, and covered with very soft false membrane, of extreme tenuity."

The cases now detailed, constitute the first series of the author.

"Case 3. Flore Retz. . ., aged 21½, a primipara, delivered at the full time, at 11 P.M., on the 19th July 1842, died on the 26th of the same month, at half-past 3 P.M.,—that is to say, seven days after her confinement.

"The principal lesions discovered on dissection, were pleurisy, peritonitis, and inflammation of the lymphatic vessels of the uterus. There was no injection of the external surface of the cranium, and it was natural as to thickness and hardness. The internal surface had not contracted any anormal adherence with the meninges; upon the right and left coronal and parietal regions, there was a bluish-red layer extending backwards to the lambdoidal suture,—in front, encroaching upon the orbital fossæ, and laterally, upon the wings of Ingrassias, and greater wings of the sphenoid bone. Above, that upon one side was separated from that on the other by a space of two centimetres in front, which expanded as it went backwards. This layer varied from one millimetre to a millimetre and a half in its middle, diminishing insensibly to the edges. It was smooth upon the cerebral surface. The furrows for the vessels were deeper in it than in the internal table of the cranium. This cerebral surface owed its polish to a compact lamina, almost as thin as a sheet of paper; in the rest of its thickness, the new tissue presented an areolar or spongy structure, hard, and as it were penetrated by earthy matters. One could not detach the cranium without leaving upon it a crowd of minute particles, rendering its surface unequal, but scraping was sufficient to remove them, and render the surface smooth, as in other parts, where there was no adventitious layer; but the colour was a little more rosy, and the vascular canals were larger than elsewhere. Below the grooves in the occiput for the lateral sinuses were three small red patches, formed by the deposit of a new matter still soft. The external surface of the dura mater was somewhat unequal in the course of the vessels; in other parts, this membrane presented nothing different from its usual character.

"Case 4. Armandine Dup. . ., aged 19, an embroidress, was delivered of her first child on the 7th October 1840, and died upon the 26th of the same month, from the effects of peritonitis and pleurisy.

"The cranium was remarkable for its hardness, which almost equalled that of ivory; its internal surface presented upon each side a large patch, occupying the coronal and parietal fossæ, and contrasting by its red colour with the white appearance of the neighbouring parts. The patches were excavated with deep furrows for the meningeal vessels. The nail of the thumb being strongly pressed upon them left a scratch on their surface; the point of the scalpel penetrated easily, till stopped by the internal table of the bone. These patches could be elevated by the bistoury, at the edges of the fracture, where a lamina could be lifted up, which was thickest as it approached the centre, being there about two millimetres. The thickness progressively diminished towards the circumference, where it imperceptibly terminated; so that, at the first glance, one could only perceive a red colour, depending apparently upon the deposition of a new layer. This layer was rendered smooth, upon its internal surface, by a lamina of compact tissue, nearly as thin as a sheet of paper. It was spongy or areolar, like the diploë of bone, but differed from it, in offering less resistance to the scalpel. The original surface of the cranium, when completely freed from the adventitious deposit, was found to have preserved its natural whiteness. It presented no anormal irregularities. The foramina for vessels were enlarged, only, in the regions occupied by the patches. The dura matter was neither changed in colour, thickness, nor consistence.

"Case 5. Josephine Sophie Ca . . ., aged 23, a laundress, was delivered of her first child on 3d October 1842, and died upon the 11th, of peritonitis, complicated with inflammation of the veins and lymphatics of the uterus,—having lived till the 9th day.

"The cranium was not injected upon its external surface; it was about double the ordinary thickness. Its internal surface adhered strongly to the dura mater, which was slightly torn in the coronal region. There was remarked on each side of this region, a layer of from a millimetre and a half, to two millimetres in thickness, and strongly adherent to the internal surface of the cranium. From the side to the base it invaded the external margin of the orbital protuberances, and reaching to the lesser wings of the sphenoid, extending backwards to the grooves for the middle meningeal arteries, and upwards to the superior longitudinal sinus. Its colour was of a bluish-red, which could be remarked throughout the whole internal surface of the cranial vault; it was grooved for the vessels. This layer was harder than that mentioned in any of the cases hitherto detailed, but it could be cut with the scalpel, which was arrested when it reached the proper tissue of the cranium, in which it seemed formed as in a mould. It could only be detached in inconsiderable portions, and that merely at the margins of the fracture. There, patches of two centimetres in breadth, had been separated by the violence done by the hammer; they were flexible, and presented on their internal surface, a plate of compact tissue; but in their thickness the texture was areolar. When detached from the inside of the cranium, they left particles which caused it to be unequal; the foramina for vessels were more distinct in it than in other regions; but, excepting these two circumstances, the surface covered by the adventitious layer completely resembled that which was not invaded by it. The diploë of the bone was gorged with blood, not only opposite the new layers, but likewise throughout the whole extent of the arch. The dura mater carried with it only a single appreciable fragment; the portions of the external surface corresponding to the patches had a greyish colour, and somewhat unequal surface; the internal surface to the dura mater presented no structural change, and was not injected in any part." Pp. 382–388.

Seven other cases are detailed with the same minuteness. We shall only quote the last of the series, which the author does not cite as a case of *osteophyte*, but as an example of partial injection, such as was observed in other cases to a greater or less degree, when there was no deposit of new matter.

"CASE 12. A rachitic woman, aged 17, was delivered at the seventh month, and afterwards died of peritonitis and double pleurisy.

"The internal surface of the cranium exhibited no deposit of new matter, but there was observed in some small depressions of the cranial region, vascular arborisations, resembling those which traverse the first rudiments of *osteophyte.* They were applied immediately to the bone; their branches proceeded from a small trunk which had been broken in detaching the dura mater. The membrane appeared healthy on both surfaces." P. 393.

A general description is given by the author, of the adventitious osseous deposit, a few only of the leading particulars of which we can afford space to enumerate.

In the earliest stage of its development, a ramification of vessels is first observed, and it is apparently by these vessels that the new matter is deposited. They are most generally to be met with on the digital impressions on the arch of the cranium. In 43 crania, in which the patches of osseous deposit were limited to the digital impressions, they were seen only in the arch. In a single case only was there any of it observed at the sella Turcica. As the case is of long or short duration, so is the new deposit found extending or not into unusual situations. It varies in thickness, from extreme tenuity to three or four millimetres. The same patch varies considerably in thickness, but always becomes thin at the margin, and is thicker in a digital impression, than on the neighbouring eminence. When the deposit has invaded the whole of the arch, it has its maximum thickness upon the coronal region. In one such case in which it was measured, it was three millimetres in depth in front, and at the posterior margin of the parietal bones, only half a millimetre. Desiccation does not notably diminish the thickness of the deposit; it is of a red colour when fresh, which is changed upon drying, and removed by maceration. In two patients who died jaundiced, the colour of the deposit was yellow.

"Patches arrived at the second degree of consistence were analysed by M. Frigeris, director of the works of M. Pelletier. He found that they contained 27 per cent. of earthy salts, (22 of phosphate of lime, 5 of the chlorides of potassium and sodium); the rest was coagulated albumen, fibrine, and traces of fat. Frommerz and Gugert, (Berzelius, *Trad. de Esslengen*, 1833, tom. vii. p. 488), found in 100 parts of dried costal cartilages, 3·402 of inorganic matter, (salts of soda, potash, and lime, and a minute quantity of the oxide of iron.) One hundred parts of human bone gave, according to Berzelius, 66·70 of earthy salts, (*idem*, p. 474.) Thus it appears that 23·598 is the difference between the costal cartilages and the accidental deposit now under consideration; and that 39·70 is the difference between this production and the bones, not taking into consideration the quantity of inorganic matter which enters into their composition." P. 401.

The following table presents at one view to the reader, a considerable amount of information regarding the statistics of these curious cases. In perusing it, it must be recollected that several of the morbid changes mentioned were found in the same subject.

"TABLE I, referring to 90 women presenting osteophyte cranium.

"*Recent Diseases and Structural Changes.*—Fits, 4; cerebral hæmorrhage, 1; arachnitis, 6; pleuritis, 53; pneumonia, 3; peritonitis, 77; lymphitis, 74; phlebitis, 16; erysipelas, 3; variola, 1; scarlatina, 2; jaundice, 2; chancres and syphilitic vegetations, 2.

"*Old Structural Changes.*—Ossific deposits upon the falx cerebri, 1; hypertrophy of the heart, 2; patches of lymph upon the ventricles, 1; pleural adhesions, 8; tubercular or cretaceous deposit in the lungs, 15; peritoneal adhesions, 1; biliary calculi, 2; yellow state of the kidneys, 1; rachitis, 1.

"TABLE II, referring to 90 women in whom there was no osteophyte cranium.

"*Recent Diseases and Structural Changes.*—Fits, 4; small effused clots of blood, of the size of a pin's head, in the cortical substance of the brain, 1; arachnitis, 9; pus in the meshes of the pia mater, 1; pericarditis, 2; pleurisy, 39; pneumonia, 4; peritonitis, 81; lymphitis, 70; phlebitis, 13; urethritis, 1; erysipelas, 4; scarlatina, 3.

"*Old Structural Changes.*—Ossific deposit on the arachnoid, 1; adherence of the pericardium, 1; hypertrophy of the heart, 2; pleural adhesion, 1; tubercular or cretaceous deposit in the lungs, 7; rachitis, 1." P. 421.

M. Ducrest points out at some length various differences between the cranial osteophyte of pregnant women, and the other anormal ossific deposits. According to Berard, exostosis of the cranium is most frequently developed upon the external table; whereas the puerperal osseous production now under consideration is almost invariably found only upon the inner. Of 90 cases examined by Ducrest, in which it was found upon the inner table, four only presented it on the external; and in these it was seen without, merely upon the portions which corresponded to those in which the deposit existed within. Another remarkable circumstance is the usually healthy state of the dura mater; for in most circumstances in which adventitious bone is thrown out, the periosteum is thickened.

The causes of this remarkable deposition of bony matter within the crania of puerperal women, undoubtedly still remain in obscurity. All in whom it was met with died in child-bed. Of 231 crania of such persons, 90 presented this kind of osteophyte in different states of progress. M. Cossy communicated to the author the result of observations upon 40 other crania, and he himself examined 31 more, thus giving a total of 71 crania. Of these, 35 belonged to men, and 36 to women who had not been recently delivered. None of them presented any traces of osteophyte.

The following table, the author considers important, as indicating the difficulty in determining the influence which the puerperal state exerts in causing this deposit.

Time elapsed since Delivery.	No. of Cases.	Degrees.						Uncertain.
		As to Size.			As to Consistence.			
		1st.	2d.	3d.	1st.	2d.	3d.	
Between 2 and 3 hours,	2	1	1	...	...	2	...	...
" 18 and 19 "	1	1	...	...	...	...	...	1
" 1 and 2 days.	5	2	3	...	2	2	...	1
" 2 and 3 "	8	2	3	3	1	3	3	1
" 3 and 4 "	7	3	4	...	2	2	...	3
" 4 and 5 "	15	10	5	...	6	3	4	2
" 5 and 6 "	16	8	5	3	5	3	2	6
" 6 and 7 "	8	...	7	1	1	5	2	...
" 7 and 8 "	5	3	2	...	2	2	1	...
" 9 and 10 "	7	2	5	...	...	3	2	2
" 10 and 19 "	8	4	3	1	4	3	1	...
Total, . .	82	36	38	8	23	28	15	16

Details are given regarding the age, temperament, and number of pregnancies of the persons on whom the observations were made. It appears, that the proportion of women within whose crania the deposit was found, diminishes as the number of pregnancies increase; a result which might induce one at first to say, that the gravid state cannot be the cause of this *osteophyte*. This difficulty is, however, only apparent, as upon referring to the Table of Ages, it is seen, that as age advances, *osteophyte* becomes less frequent; the average of the primiparæ was 23, and that of the multiparæ was 28.

The author gives a great amount of information regarding the cases, which we would recommend to the perusal of those who may wish to enter upon the investigation of this remarkable subject.

In this notice, we have confined ourselves to the most interesting and novel topics of the memoir.

In conclusion, we have only farther to quote the short *resumé* with which the paper is terminated:—

> "1. An accidental production is found upon the cranium of pregnant women, which is at first analogous to cartilage, and which afterwards acquires the consistence of bone.
>
> "2. The corresponding portions of cranium and dura mater present no special lesion.
>
> "3. It is most apt to be formed in young women.
>
> "4. Its presence does not give rise to any particular symptom." P. 432.

The subject requires farther elucidation; in the mean time, we may say with the author: "*je ne sais quelle importance pathologique pourrait s' attacher plus tard à cette production; actuellement elle me semble plus curieuse qu' importante.*"

The concluding memoir is by M. Fauvel; and is entitled, "*Researches regarding suffocating capillary bronchitis in children and adults.*"

The symptoms, anatomical characters, and treatment in children and adults, are examined minutely and in detail. We regret that, for the present at least, we have not room to analyze its contents. It is of such importance, however, that we may be induced to give an abstract of it in the Periscope of an early Number.

In conclusion, we must add, that this volume of Transactions ought to find a place in every Medical Library.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

ON THE CIRCULATION OF THE BLOOD IN ACARDIAC FŒTUSES, BEING A REPLY TO A PAPER IN THE MONTHLY JOURNAL BY DR MARSHALL HALL ON THIS SUBJECT.

By JOHN HOUSTON, M.D., M.R.I.A., Surgeon to the City of Dublin Hospital, Lecturer on Surgery at the School of Medicine, Park Street, &c.

OF the *causes* and *mode* of the circulation of the blood in acardiac fœtuses no explanation in all respects satisfactory has yet been given. Dr M. Hall has recently questioned the correctness of conclusions which I thought myself justified in forming from the examination of a case of this kind, which I reported to the meeting of the British Association at Bristol in 1836.

Almost all acardiac fœtuses hitherto described have been twin births, one of the infants having a heart. In all there have been two placentæ, with two sets of membranes united side by side, and two cords—one for each fœtus—with distinct placental attachments, and containing the usual blood-vessels. Sir A. Cooper demonstrated by injection what had not been previously made out, although suspected to exist—that there was an anastomosis between the cords of the two fœtuses, and upon this discovery Dr M. Hall founds his theory of the influence of the heart of the remote fœtus in conducting the circulation in its acardiac companion. Dr Hall, like myself, rejects Sir A. Cooper's explanation to the effect that the blood is propelled along the anastomosing branch of the umbilical artery directly to the imperfect fœtus, because that would involve the inversion of the circulation in the placenta. He supposes that the stream of blood propelled by the heart through the anastomosing branch, meeting that coming along the umbilical artery of the acardiac fœtus, carries it before it into the placenta, and through the umbilical vein into the body of the monster.

My objection is not taken to the capability of the action of the heart of one of the fœtuses for driving the blood through the remote body of the other and back again, but I do not think such an occurrence can happen in the case of an acardiac twin fœtus; for here the line of vascular continuity is broken in the placenta, by the introduction of a diverting force, such as does not exist to interfere with the straight-forward progress of the blood in the other instance.

Dr Hall seems to have forgotten that the artery of communication with the perfect fœtus, is accompanied by a corresponding vein, which, equally, on the same "principle of lateral action," must bring that blood back again in the same direction. The existence of this great vein, in such a situation, is fatal to Dr Hall's theory.

Dr Hall's description of the manner in which he supposes that the heart of the perfect fœtus carries the blood through the anastomosing branch of the umbilical artery and propels, "on the principle of lateral action," the whole of the blood of the imperfect fœtus into the placenta, may, in his own clear words, be equally applied to its influence on that in the anastomosing branch of the vein.

As bearing out his views on this subject, by proving "that the action of the heart of one fœtus does sometimes extend to the umbilical cord of a second fœtus," Dr Hall quotes a case from Lallemand of a *pulsating* hemorrhage from the placental end of the cord of the first born of twin fœtuses before the birth of the second:—such cases are so far from being unusual, that the common practice of tying the placental end of the cord has been adopted, in anticipation of hæmorrhage, should the birth turn out to be one of twins. Such cases weaken the foundation of Dr Hall's theory, and take away half the argument for the supposed all-important value of the anastomosis in acardiac fœtuses, by demonstrating its presence in cases where no such use for it can be supposed to exist.

Dr Hall marvels at my not being able to account for the phenomena of the placental *soufflet* in connexion with the circulation of the blood in that organ, and gives an extract from Barth and Roger explanatory of its nature,—making use of the circumstance at the same time, as an argument against the general accuracy of my conclusions. I need only say that there has been much uncertainty regarding the cause of the placental *soufflet*, and, that the work containing the extract alluded to was not written at the time of the publication of my Essay.

Dr Hall objects to my position that "the circulation in the vessels of the fœtus is inverted," viz. that the blood enters the body, and is distributed through its several parts by the umbilical vein and branches, to be brought back again therefrom by the aorta, the organs of which are derived directly by innosculation from the capillary terminations of that vein, and yet he says that "the blood passes through the capillaries of the placenta into the umbilical vein, and through the umbilical vein and a series of capillaries (in the monster of course) to the aorta, and *not* according to the views of Dr Houston, in an inverted direction." Verily this is a puzzle! a distinction without a difference. For, if the blood, no matter how propelled, passes, as agreed upon mutually between us, through the umbilical vein into the body of the acardiac fœtus, and if it finds no heart, and consequently no cross channels, such as a *foramen ovale* and *ductus arteriosus* would offer, by which to be transferred from the venous to the arterial side of the circulating apparatus, it has no other course left for it but that "through the umbilical vein and a series of capillaries to the aorta," and, therefore, "*according* to the views of Dr Houston, in an inverted direction." The possibility of the inversion is occasioned by all the veins of the body being without valves.

Dr Hall further objects to the theory of the inversion of the circulation in the capillaries of the body of the fœtus, and the consequent fulfilment, by veins, of a function usually performed by arteries, and *vice versa*, on account of its "improbability."—But even of this we have an analogue in the umbilical vein itself.

Dr Hall, desirous of attributing all to the heart itself, persists in his original opinion, and censures gentlemen for their credulity. The facts still remain notwithstanding Dr Hall's assertion to the contrary, that the heart is *not* the sole agent by which the blood is circulated throughout the body, and we have good evidence for the belief that the blood vessels themselves *are* possessed of a considerable, although hitherto unexplained power, to that effect.—Abridged from the *Dublin Journal of Medical Science*, for January 1844.

RELATION BETWEEN RESPIRATION AND MENSTRUATION. BY MM. ANDRAL AND GAVARRET.

[In a late Number of the *Annales des Sciences Naturelles*, Andral and Gavarret have published a series of very interesting experiments on the above subject. We have attempted to give the results in an abridged form. They appear important, as in a certain degree confirming an opinion long ago expressed by Testa, Osiander, Autenreith, and others, that the function of menstruation is intended, in one point of view, to supplement the comparatively imperfect activity of the female lungs, and to diminish the excess of carbon in the blood thereby induced. It is remarkable, that the two French authors, whose names are placed at the head of this notice, do not allude to the previously published opinions of these writers.]

During the whole of that period of life, comprised between the age of eight years, and the most advanced old age, the male and female are distinguished by the difference in the quantity of carbonic acid exhaled by their lungs in a given time. *Ceteris paribus*, the male always exhales a greater quantity than the female. This difference is most remarkable between the ages of sixteen and twenty,—an epoch, during which the man furnishes by the lungs almost twice as much carbonic acid as the woman.

In the male, the quantity exhaled increases from eight to thirty years. At the age of thirty this begins to decline, and this decrease is still more marked as the male approaches extreme old age; so that towards the close of a long life, the exhalation of carbonic acid amounts only to what it was at the age of ten.

In the female, the exhalation of carbonic acid increases according to the same laws as in the male, during the whole period of the second infancy; but on the establishment of puberty, when menstruation appears, this exhalation, contrary to that which happens in the male, is altogether arrested in its increase, remaining stationary during the period that menstruation continues in all its force. The quantity of carbon consumed every hour by the female during this period is 6·4 grammes (98·75 grains), being the same in quantity as in the infant of the same sex; while in the male the amount of carbon thus burnt before the fifteenth year is 7·4 grammes (104·18 grains), which quantity is increased to 11·3 grammes (164·359 grains), between the ages of fifteen and forty.

So soon as the menses cease, the exhalation of carbonic acid by the lungs is increased in a very remarkable manner. Thus, in women aged from 38 to 49 years, who have ceased to menstruate, the amount exhaled in one hour is from 6·4 grammes (98·75 grains) to 8·4 grammes (129·61 grains.)

As the woman approaches to old age, it decreases in amount, just as happens in the male. Thus, while among non-menstruating women, aged from 40 to 50 years, the quantity exhaled in one hour is raised to 8·4 grammes, (129·61 grains); this quantity between 50 and 60 decreases to 7·3 grammes, (111·93 grains); between 60 and 80 it decreases to 6·8 grammes, (104·92 grains), which last is higher than is found in women menstruating, of the age of 25. Finally, in a woman aged 82, we have found only 6 grammes (92·58 grains.)

The amount of the exhalation of carbonic acid in pregnancy, is according as the women have arrived at the period of the return of menstruation. Thus, the exhalation, in four women examined with this view, varied between 7·5 grammes, (105·72 grains), and 8·4 grammes (129·61 grains) in the hour.

	Male.	Female.	
Before the age of 15, ...	104	98	grs. in one hour.
From 15 to 40	164	98	,, ,,
,, 40 to 60	155	120	,, ,,
,, 60 to 80	141	104	,, ,,

CASE IN WHICH THE URACHUS REMAINED PERVIOUS AFTER BIRTH.

BY T. H. STARR, M.D., Kettering.

A poor woman brought a female child to me for advice, aged thirteen weeks. From the period of its birth the urine had escaped at the umbilicus, the urethra being at the same time perfect. The excretion passed freely through the natural channel, and probably simultaneously with its evacuation at the navel, since the flow of it from the latter situation was by no means continued, but took place at intervals, as if it were controlled by the detrusive action of the bladder, and other muscles associated therewith. The general appearance of the umbilicus was larger and more open than usual; and in the centre of the cartilaginous nipple-like projection I perceived an orifice which admitted an ordinary-sized probe; this was easily passed in the direction of the linea alba towards the bladder.

It was clear to me, from a consideration of all the circumstances, that the common ligamentous band, passing from the fundus of the bladder upwards to the umbilical cord, and known as the urachus, had assumed, and retained subsequently to birth, the form of a duct, and this duct opened into the bladder. In many quadrupeds, a communication resembling that which I have described always exists up to a certain time; but, to use a quotation from that distinguished anatomist, M. H. Cloquet, "In man it (the urachus) never forms a canal, excepting in cases where the urethra is wanting."

I think it more than probable, that during the fœtal life of this child, a conformation of parts existed strictly identical with the allantois of other animals, and performing the same function, obscure as that function is generally admitted to be. Previously to my seeing the case, pressure in a variety of shapes had been resorted to without benefit. I therefore recommended the mother of the child to take it to the County Infirmary, in order that the opening might be closed by suture, or other surgical means.—*Provin. Med. Journal*, Jan. 13, 1844.

SURGERY.

NERVOUS SYMPTOMS SIMULATING THE EFFECTS OF A WOUND OF THE HEART.

A girl of the town, deceived by her lover, inflicted upon herself two wounds with a knife in the region of the heart. She immediately lost consciousness, and was reported to have been found lying bathed in blood. That the hæmorrhage could not have been very abundant, however, seems evident from the fact, that it was restrained by very simple means. Neither was there any discharge of blood from the lungs. When admitted into the Hospital of La Pitié under M. Bérard, the wounds were suppurating, and their appearance, with the whole history of the case, led to the conviction that there had been no penetration of the chest. On this case, M. Bérard remarks, that the appearance of nervous symptoms simulating those of a more serious injury, is a constant phenomenon after blows given in the precordial region, under the influence of anger or despair. He mentions several remarkable instances of this, and the case now related was of the same nature. The wounds healed up rapidly, and as far as their progress is concerned, the case presented no feature of interest. But the point of importance is the analogy that exists between the symptoms consequent on penetration, and those which are the result merely of a disturbance of the nervous system. Hence our prognosis in cases of wounds by a stabbing or cutting instrument in the region of the heart becomes a matter of great difficulty, there being no definite characters by which we may distinguish the one class of cases from the other. The further progress of the case can alone remove our uncertainty, and it is necessary for the practitioner to be aware of this fact, and to be guarded in his prognosis accordingly. The same caution, it may be added, applies to wounds received in other parts of the chest.—*Journ. de Méd. et de Chirurg. Pratiques*, Dec. 1843.

STATISTICS OF STONE IN THE BLADDER IN THE ROYAL INFIRMARY OF ABERDEEN DURING A PERIOD OF FIVE YEARS; CONTAINING A LIST OF ALL THE CASES OF STONE IN THE BLADDER THAT PRESENTED THEMSELVES FOR ADMISSION, FROM 20TH MARCH 1838 TO 20TH MARCH 1843, AND WERE TREATED; BY WILLIAM KEITH, M.D., Surgeon, Junior-Surgeon to the Infirmary, and Lecturer on Clinical Surgery.

Although familiar with lithotrity, and successful in its practice previous to my appointment in March 1838, as one of the Surgeons to the Infirmary, and often urged to publish the result of my experience in that mode of curing stone, yet, as I had had no experience in lithotomy, in place of proclaiming the success of an isolated operation, I contented myself with merely publishing two cases,—the first so treated in Scotland,—in the October Number of the *Edinburgh Medical and Surgical Journal* for 1833, (Vol. xl. page 480),—feeling convinced that, whatever the amount of an individual's success might be, yet the testimony of a person practising one branch exclusively could aid the profession very little, in rightly estimating the relative value of the different modes by which stone in the bladder is to be cured. The wider field for observation which I have since occupied has at length fully obviated the objection to my evidence, above stated; and having patiently waited until the number of cases has so far accumulated as to afford a fair field for comparison, and sufficient material for safe induction, I venture to lay the annexed statistics before the profession, as introductory to some practical observations on the various modes proposed for curing this prevalent and painful malady, giving greatest prominence, in the first place, at all events, to lithotomy and lithotrity, these constituting the most efficient in the opinion of the writer.

I would premise that every case that presented to me for admission, whatever the age, or the state of health, or of constitution might be, was admitted, and is here accounted for; and this I deem it necessary to state, because, judging from my experience, I should say, if select cases only were to be operated on, there need be few or no deaths after lithotomy or lithotrity. That the comparison, afterwards to be drawn between lithotomy and lithotrity may be strictly impartial, I have, in the annexed tables, confined myself entirely to my hospital experience, fixed a limit to the period, and shown the mode in which every case that offered within the dates named has been disposed of.

Lithotrity has had this preference, that for it a first choice was made from the gross, and, in a majority of the cases, the most favourable subjects for operation were chosen, viz. those in perfect health, having small calculi, and an unirritable bladder and constitution, the remaining cases only being left to lithotomy. This admission the latter operation is fully entitled to the advantage of, as my impression is, that of the sixteen operated on by crushing, fifteen would, to a certainty, have recovered, had they been cut; and the fact that selection is deemed absolutely necessary for lithotrity, would tell against it as an operation, if it were proposed as a substitute for lithotomy, or offered to the world as suitable in all cases of stone. No one at all acquainted with the operation will ever put forward such claims in its behalf; but of this hereafter: meantime enough will be learned from the annexed statistics to prove, that, in its own place, it is safe and sufficient, and is such an operation as the public have a right to demand the choice of in a considerable number of cases, at the hand of every professed operating surgeon.

The Aberdeen Infirmary contains 240 beds. The hospital-staff consists of two physicians and two surgeons. The surgical wards are equally divided between the two latter;—those allotted to me containing a total of 56 beds.

Within the period above specified, 2352 patients passed through my wards, of whom 1350 were males, and 1002 were females; among the males there were 42 cases of stone in the bladder, among the females only one; giving an average of one male in every 32¼ cases, and only one female in 1000. The average of stone cases given by the sum total of surgical cases being 1 in 54¾.

The annexed tables will sufficiently explain themselves. The value of such documents depends so entirely on their faithfulness and accuracy, that I have authenticated the particulars of every case by giving the name and residence of every patient operated on. Many interesting facts have come out in the course of my experience, and are recorded to be communicated in my next paper, in preference to loading the tables with too many columns.

TABLE I.—Containing a statement of all the Cases of Stone in the Bladder, admitted between the 20th March 1838, and the 20th March 1843; how disposed of; and the various averages resulting.

No.	Operation.	Average number of days under treatment.		Average Age.	Average Weight of Stone.	Average of Deaths.	Result.			Inspection.
		After operation.	In whole.				Cured.	Relieved.	Dead.	
23	LITHOTOMY,........................	35½	60$\frac{20}{23}$	56⅓	8 dr. 14 gr.	1 in 11½	21	0	2	Peritonitis in one case. In the other, a child, exhaustion after leeching.
16	LITHOTRITY,........................	...	44⅓	56$\frac{6}{16}$	3 dr. 8 gr.	1 in 15	14	1	1	One died from continued irritation from stone, 29 days after the last sitting. The case relieved caught typhus fever after one sitting, and never came under treatment for stone again.
3	Cases that wished lithotrity, but were unfit for it, and declined lithotomy.	...	8	68	Large.	As unwilling 1 in 14⅓.	...	...	...	These are known to have since died, worn out by suffering.
1	Was quite broken down, and unfit for either operation.	...	14	59	Ditto.	As unfit, 1 in 43.	...	...	...	Died soon after.
43	Out of a total of surgical cases that presented themselves,..................................	2352, 1 in 54¾.				Mean mortality, 1 in 12⅔.	35	1	3	

TABLE II.—Containing the whole details connected with the Cases subjected to Lithotomy.

Date of Admission.	No.	Name.	Age.	Male.	Female.	Occupation.	Residence.	Date of Operation.	First day urine came by urethra.	Event.	Date of Dismissal.	Days after operation.	Days in hospital.	Weight of the Stone.	Admeasurement of the Stone's diameter. Long.	Short.	Trans.
1838, Nov. 1.	1	John Taylor.	60	1	...	Farmer.	Ellon.	Dec. 7.	10th day.	Cured.	1839, Jan. 17.	41	78	2½ drachms	1½ by	½ by	1 inch.
1839, April 13.	2	James Reid.	53	2	...	Gardener.	Aberdeen.	May 7.	20th „	...	June 14.	38	62	2 do.	1¾	½	1
... Sept. 19.	3	James Allanich.	55	3	...	Farmer.	Strathdon.	Oct. 9.	8th „	...	Oct. 26.	17	37	5 do.	2	7/16	1¾
... ... 27.	4	Thomas M'Donald.	74	4	...	Labourer.	Aberdeen.	... 23.	30th „	...	Dec. 5.	43	69	4 do.	1½	⅜	¼
... Oct. 24.	5	Alexander Allan.[1]	74	5	...	Farmer.	Culsalmond.	Nov. 20.	2d „	Dead.	Nov. 23.	3	30	11 do.	2	1	1½
1840, Nov. 24.	6	Charles Watt.	74	6	...	Shoemaker.	Aberdeen.	1841, Feb. 6.	15th „	Cured.	March 20.	42	116	13½ do.	2	1¼	1 6/16
1841, Jan. 16.	7	Alexander Skene.	57	7	...	Bleacher.	Aberdeen.	Jan. 30.	10th „	...	... 12.	40	55	9 do.	1½	1	1¼
... Mar. 30.	8	William Bethune.	19	8	...	Farmer.	Forglen.	April 14.	4th „	...	May 16.	32	46	6½ do.	1¾	1	1 4/16
... April 14.	9	Duncan M'Kenzie.	65	9	...	Farmer.	Crathie.	May 22.	16th „	...	July 4.	43	81	2 do.	1	½	1
... July 14.	10	Peter Davie.	61	10	...	Weaver.	Aberdeen.	Aug. 7.	9th „	...	Oct. 9.	63	87	28 do.	2¾	1 3/16	2 1/16
... Aug. 5.	11	James Smith.	59	11	...	Farmer.	Echt.	Sept. 25.	3d „	...	Nov. 11.	47	98	6 do.	2	1	1¼
1842, Jan. 8.	12	David Scatheway.	12	12	...	School.	Aberdeen.	Jan. 22.	5th „	...	Feb. 28.	37	51	3 do.	1 3/16	1	6/16
... Feb. 8.	13	Alexander Reid.	70	13	...	Gardener.	Seaton.	Feb. 26.	9th „	...	March 29.	31	49	5½ do.	1½	1	1
... ...	14	William Kennedy.[2]	4	14	...	Child.	Nigg.	March 5.	...	Dead.	... 8.	3	28	9 dr. 1 scr.	1¾	1	1¼
... Mar. 10.	15	William Profit.	38	15	...	Farmer.	Towie.	... 26.	3d „	Cured.	April 15.	20	36	2 dr. 2 scr.	1½	½	1¼
... April 23.	16	William Christie.	69	16	...	Farmer.	St Fergus.	May 14.	14th „	...	July 26.	73	94	20 drachms	2¼	1¼	1½
... July 14.	17	James Ironside.	65	17	...	Farmer.	Fyvie.	July 23.	20th „	...	Aug. 29.	37	46	9½ do.	2	1	1¼
... Aug. 16.	18	John Cock.	58	18	...	Weaver.	Aberdeen.	Sept. 10.	14th „	...	Oct. 31.	51	76	8 do.	2 3/16	1½	1 6/16
... Oct. 25.	19	William Minty.	56	19	...	Farmer.	Fyvie.	Nov. 19.	6th „	...	Dec. 15.	26	51	12 do.	2	9/16	1½
... ... 29.	20	George Gray.	78	20	...	Farmer.	New Deer.	... 12.	14th „	...	... 16.	34	48	8½ do.	2¼	1	1 9/16
... Nov. 15.	21	Angus M'Donald.	62	21	...	Seaman.	Aberdeen.	... 19.	4th „	...	... 9.	20	24	1 do.	6/16	½	6/16
1843, Jan. 25.	22	John Adam.	60	22	...	Farmer.	Tough.	Feb. 11.	11th „	...	March 22.	39	56	10½ do.	2	1	1½
... Mar. 9.	23	Alexander Begg.	78	23	...	Farmer.	Kemnay.	April 22.	3d „	...	May 30.	38	82	8 do.	1 7/16	9/16	1 4/16
Total,........	23	Average,............	56½						10th day.			35½	60⅞	8 dr. 14 gr.	1½ fully,	1 nearly,	1¼ fully.

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[1] He was quite well until late in the evening of the 22d, when he foolishly rose and took exercise for two hours, unknown to the house-surgeon. In the morning he was found to labour under violent peritonitis, of which he died.

[2] Six leeches were applied for pain in the hypogastric region, on the evening of the 6th. Mistaking her orders, the night nurse persisted in the use of hot poultices over the bites until the hour of visit, 7 A.M., on the following morning, when the child was found blanched and almost bloodless. He lived till the evening of the 8th, but no means could recruit the loss of blood.

TABLE III.—Containing the whole details connected with the Cases subjected to Lithotrity.

Date of Admission.	No.	Name.	Age.	Male.	Female.	Occupation.	Residence.	Dates of Sittings.	Event.	Date of Dismission.	No. of sittings.	No. of days under treatment.	Weight of the debris caught.
1838, June 9.	1	W. Tough.	66	1	...	House-carpenter.	Aberdeen.	June 10 and 14, Aug. 1, 24, and 31.	Cured.	Sept. 4.	5	87	7 drachms.
... July 10.	2	J. Taylor.[1]	50	2	...	Farmer.	New Deer.	Aug. 1, Sept. 15, and Nov. 10.	Dead.	Dec. 2.	3	145	6 ditto.
... Aug. 14.	3	G. Wilson.	58	3	...	Farmer.	New Machar.	August 15.	Cured.	Aug. 18.	1	4	1 ditto.
1839, June 27.	4	A. M'Queen.[2]	68	4	...	Shoemaker.	Montrose.	Aug. 1, 17, 31, Sept. 15 and 25.	Cured.	Oct. 31.	5	126	5 ditto.
... July 23.	5	Joseph Milne.[3]	69	5	...	Farmer.	Fetteresso.	July 25, October 24 and 30.	Cured.	Aug. 10, Nov. 8.	3	28	4 ditto.
... Oct. 1.	6	Peter Brown.	42	6	...	Farm-servant.	Rubislaw.	October 2.	Cured.	Oct. 4.	1	4	1 dr. 1 scr.
1840, Feb. 4.	7	Janet Shirrefs[4]	30	...	1	Widow.	Aberdeen.	Feb. 8 and 25, March 4.	Cured.	April 4.	3	64	4 drachms.
... Mar. 24.	8	John Cock.	46	7	...	Weaver.	Aberdeen.	March 25, April 11 and 22.	Cured.	April 28.	3	35	5 ditto.
... Aug. 10.	9	John Mackie.[5]	67	8	...	Mason.	Aberdeen.	August 13.	Relieved.	Aug. 16.	1	6	1 ditto.
... Dec. 6.	10	John Leslie.	75	9	...	Boatman.	Kintore.	Dec. 12, 19, 24, 30, and Feb. 11	Cured.	Feb. 22.	5	78	3¼ ditto.
... ... 19.	11	A. Malcolm.	77	10	...	Gardener.	Aberdeen.	December 26 and 30.	Cured.	Jan. 6.	2	18	4 ditto.
1842, Feb. 15.	12	Wm. Horne.[6]	55	11	...	Quarrier.	Newhills.	Feb. 19, 26, March 30, May 12, July 9.	Cured.	July 12.	5	147	4 ditto.
... July 14.	13	J. Gordon.[7]	60	12	...	Farmer.	Crathie.	July 23, August 12, Oct. 14.	Cured.	Aug. 14, Oct. 18.	3	36	2½ ditto.
... Nov. 15.	14	James Selbie.	48	13	...	Fireman.	Banner Mill.	November 17 and 19.	Cured.	Nov. 23.	2	8	1 ditto.
... ... 24.	15	William Gray.	40	14	...	Shoemaker.	Rayne.	November 26 and 28.	Cured.	Dec. 8.	2	14	½ ditto.
1843, Jan. 5.	16	J. Florence.	51	15	...	Farmer.	Chapel of Garioch.	January 7.	Cured.	Jan. 9.	1	4	¼ ditto.
Total,	16	Average,	$56\frac{6}{16}$	15	1						$2\frac{13}{16}$	44½	3 dr. 8¾ grs.

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[1] Lithotrity practised in compliance with his fears of lithotomy. He died from continued irritation from stone twenty-two days after the last sitting. The best proof of the unsuitableness of the case for lithotrity, is the fact that 2¼ ounces of stone in large fragments were removed from his bladder after death.

[2] The tendency to active lithic formation was only subdued after issues were inserted in the loins,—200 calculi were broken and brought away during the time he was in hospital.

[3] He returned in October, a renal calculus having sensibly descended,—it was broke, and at the second sitting scooped out.

[4] She remained after the complete removal of the stone on 4th March, until cured also of a vesico-vaginal fistula, October 4th.

[5] He caught typhus fever from the convalescents in the airing ground, and died of the fever 40 days after the last sitting. Bladder found quite healthy; three small fragments of stone found in it.

[6] There was endless annoyance in this case from recurring attacks of erysipelas of the head, face, and body,—that complaint being prevalent in the hospital at the time.

[7] October 13, returned with one small fragment, which was at once seized, crushed, and brought away.

The following Table shows the comparative prevalence of Stone in the Bladder at different ages, with the result in the cases treated, whether by

LITHOTOMY.					LITHOTRITY.				
No.	Age.	Cured.	Relieved.	Dead.	No.	Age.	Cured.	Relieved.	Dead.
1	under 5	...	...	1	0	under 5	...	...	...
	From					From			
0	5 to 10	...	...	...	0	5 to 10	...	...	...
2	10 to 20	2	...	...	0	10 to 20	...	...	...
0	20 to 30	...	...	...	0	20 to 30	...	...	...
1	30 to 40	1	...	...	1	30 to 40	1	...	...
0	40 to 50	...	...	...	4	40 to 50	4	...	...
6	50 to 60	6	...	...	4	50 to 60	3	...	1
7	60 to 70	7	...	...	5	60 to 76	4	1	...
6	70 to 80	5	...	1	2	70 to 80	2	...	...
23	Total,	21	0	2	18	Total,	14	1	1

TABLE VI.—Showing the comparative prevalence of Stone in the Bladder in the various occupations followed by those operated on.

No.	Occupation.	Cured.	Relieved.	Dead.
19	Farmers, . .	17	...	2
3	Gardeners, . . .	3	...	...
3	Weavers, . .	3	...	...
3	Shoemakers, . .	3	...	...
1	Quarrier, . .	1	...	...
1	Mason, ...	...	1	...
1	Labourer, . .	1	...	...
1	Carpenter, . . .	1	...	...
1	Seaman, . . .	1	...	...
1	Boatman, . . .	1	...	...
1	Fireman, . . .	1	...	...
1	Bleacher, . . .	1	...	...
1	Widow, . . .	1	...	...
1	Schoolboy, . . .	1	...	...
1	Infant, . . .	...	...	1
39	Total,	35	1	3

TABLE VII.—Showing the comparative prevalence of Stone in the Bladder in those localities from whence the cases that were operated on came.

Total cases operated on in 5 years, ... 39
From the city of Aberdeen, ... 14 cases.
" county of Aberdeen, . 22 cases.
As under—From the

Parish of Fyvie, . . .	2 cases.	Parish of Rayne, .	1 case.
" Crathie, .	2	" Kintore,	1
" New Deer, .	2	" Kemnay,	1
" Old Machar, .	2	" Echt, .	1
" Towie, . .	1	" New Machar,	1
" Strathdon, .	1	" New Hills,	1
" Tough, . .	1	" Ellon, .	1
" Forglen, .	1	" St Fergus,	1
" Culsalmond, .	1		22
" Chapel of Garioch,	1		

From the county of Kincardine, ... 2 cases.
Parish of Fetteresso, . . . 1 case.
" Nigg, ... 1 case.
2
And from the town of Montrose, ... 1 case. Total, 39

Thus have I in the preceding tables fully and faithfully recorded my hospital experience in this department of surgery. From the recorded experience of some of our best English surgeons, the average mortality among those of all ages operated on, is 1 in 7⅓, and that from the age of fifty upwards the mortality increases to one in five or more; while, on the Continent, lithotomy to those beyond the age of fifty proves still more disastrous. Dupuytren, in giving a table to prove the success of his new or bilateral operation, boasts of an average mortality at all ages of 1 in 4¼, and admits that of six operated on above fifty years of age, five died. He affirms elsewhere, that throughout France one dies out of every three operated on beyond fifty years of age; and the assertion is corroborated by Lisfranc, Velpeau, and several other writers. Well might that eminent surgeon, Dupuytren, say, "There is still great room left to desire a method of performing lithotomy, less murderous than any yet in use." Considerable interest must therefore attach to a mode of operating and plan of treatment that has led to such results as the above tables show.

In lithotomy it will be seen that, of nineteen cases operated on, aged from fifty up to seventy-eight, only one died.

The principles that have guided me throughout in this operation, were arranged and fixed by me before I cut a single patient. My instruments I have modified, perhaps improved, but the principles remain unchanged; receiving an additional proof of their soundness from every succeeding case that passes through my hands. These I will, in my next paper, communicate and explain, and then allow the profession to judge whether a closer adherence to sound and fixed rules in operating would not result in far more successful practice.

As to lithotrity, I have, for upwards of ten years, been operating in every suitable case that presented. No accident of any kind has ever occurred in my practice, yet I feel that the operation requires to be much simplified before it can be safely adopted by the whole profession.

In this direction I trust I have made some progress, by dispensing with many of the instruments, by doing away with the necessity for injecting the bladder, and by depriving the operation of all its alarming accompaniments, much to the relief of both surgeon and patient,—all which will form subject-matter for a paper to follow that on lithotomy.—*Edin. Med. and Surg. Journal*, Jan. 1844.

On Lithotomy. By Bransby B. Cooper, F.R.S.

Almost every surgeon of repute has some peculiar mode of his own for the removal of a calculus from the bladder. The organ has been attacked at all approachable points, and by every variety of instruments, from the most simple to the most complex. It signifies but little what kind of instruments are used, providing they are directed by the hand of a skilful anatomist, who possesses judgment sufficient to enable him to vary his steps, according to the nature of the difficulties which may exist in any case. After considerable experience, I can express my preference to the straight staff, but it must be in the hands of one who understands how to benefit by the advantages it affords.

The steps of the operation of lithotomy may be divided into four:—*1st*, To lay open the perinæum; *2d*, To lay open the pelvis; *3d*, To lay open the bladder; *4th*, To extract the stone.

In the first of these steps, if the straight staff be used, it must be recollected that it cannot be brought to a right angle with an horizontal line, as the curved instrument can, but only to the angle of 45°, beyond which it should not be attempted to be raised, as its point is liable to be drawn out of the bladder. Nothing untoward can occur during the performance of this step, unless from an unusual size of the superficial perineal artery or one of its branches, which may be required to be secured with a ligature. The principal point to be observed in the second step, is the opening the urethra at its membranous part, avoiding as much as possible the bulb and its large artery. It is in this incision the surgeon may wound the rectum, but which may be always avoided by the oblique direction of the incision towards the tuberosity of the ischium, as well as by the precaution of having the bowel perfectly emptied of its contents.

Notwithstanding every precaution, the artery of the bulb is sometimes wounded, and is not easily secured, on account of its depth and tendency to retract. Mr Travers in such a case arrested the hæmorrhage, by making a piece of cork press on the internal pudic artery over the spinous process of the ischium. In this step, the depth of the parts appears much greater when the straight staff is preferred to the curved; but this apparent difficulty is really an advantage, as the artery is not so much pressed forward in the way of the knife.

The parts divided in the third section consist of the urethra, prostate gland, and the fibres of Wilson's muscle on the left side. The principal point to be attended to in this step is, not completely to divide the left lobe of the prostate gland, for if its fascial covering be cut through, urine is sure to escape into the cavity of the pelvis, which is the most frequent cause of death after lithotomy.

The fourth step of the operation is the introduction of the forceps, and the removal of the stone; in effecting this object, numerous difficulties may present themselves, from the position, size, form, and composition of the stone,—each of which can only be overcome by the surgeon's judgment and *tact*. The great source of danger in this operation, arises from too free an incision through the prostate gland, giving rise to extravasation of urine into the cavity of the pelvis; the propriety, therefore, of making a small opening with the knife, or any other cutting instrument, through the prostate, is very manifest. When the surgeon has cause to suspect that the stone is too large to be removed by the incision of the lateral operation, he should be prepared with instruments to break it into two or three pieces, so that he may not be under the painful necessity of submitting his patient to the objectionable operation, *à deux temps*.

The operation of lithotomy sometimes requires to be repeated, although every caution has been exercised to ensure the removal of all trace of the first calculus. The late Sir A. Cooper more than once operated a second, if not a third time. I have myself performed the operation three times on the same individual, in a period somewhat short of four years; he is still alive, and has been free of any complaint since the date of the last operation, (a period of twelve years.) Some lithotomists think that the incision should be made on the right side of the perinæum in second operations, but this I consider to be both unnecessary and inconvenient.

Patients should not be kept on very spare diet after the operation; it must never be forgotten, that the constitutional vigour cannot be diminished without increasing the irritability of the system. I am quite sure, that one of the greatest modern improvements in the treatment of patients who have undergone surgical operations, is with respect to the better diet which is early prescribed; and hence, I believe, the greater comparative success of operations in this, beyond that of any other country.—Abridged from *Guy's Hospital Reports* for October 1843.

ON FISTULA IN ANO. BY SIR BENJAMIN BRODIE.

A fistula in ano is originally an ulcer of the mucous membrane of the bowel, extending through the muscular tunic into the cellular membrane external to the intestine; and I will state my reasons for entertaining that opinion. The matter is one of great interest as a question of pathology, but it is one of greater importance, as I shall show by and bye, in connection with surgical practice. It is admitted by every one, that in the greater number of cases of fistulæ in ano, there is an inner opening to the gut as well as the outer opening; and I am satisfied that the inner opening always exists, because I scarcely ever fail to find it, now that I look for it in the proper place, and seek it carefully. I have, in the dead body, several times examined the parts where fistulæ had existed, and in every instance I have found an inner opening to it. This affords a very reasonable explanation of the formation of these abscesses; it is almost impossible to understand, on any other ground, why suppuration should take place in the vicinity of the rectum more than in any other part of the body, and why the cellular membrane there should suppurate more than cellular membrane elsewhere. Moreover, the pus contained in an abscess near the rectum, scarcely ever presents the appearance of laudable pus,—it is always dirty-coloured and offensive to the smell,—sometimes highly offensive, and occasionally you find feculent matter in it quite distinct. There is no reason why an abscess simply formed in the cellular membrane should smell of sulphuretted hydrogen; but there is a good reason why it should do so, if it be connected with the rectum.

This being the case, it is easy to understand why these abscesses do not heal. The least quantity of mucus even from the gut, or of feculent matter, issuing into the cavity of the abscess, is sufficient to occasion irritation, and prevent it healing; and I have more than once, in the living person, been able to trace the progress of the formation of one of these abscesses. For example, I was sent for to see a lady who complained of some irritation about the rectum, and on examining it, I found an ulcer at the posterior part. I ordered her to take Ward's paste,—confec. piperis nigrum, or cubebs pepper, I forget which. A month afterwards, she again sent for me, and I found that there was an abscess. I opened it, and from the outer opening the probe passed into the gut through the ulcer which had been the original cause of the disease. The original opening of the abscess is generally very small indeed, but occasionally it is large, and when the ulceration has proceeded to some extent, large enough to admit the end of the little finger. The inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the feces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics.

I believe that the most common cause of abscess of this kind is, the lodgment of hard feces in the bowels; by the straining that takes place to expel them, the mucous membrane gets torn or abraded at one part, and then the passage of the feces causes ulceration. Some time afterwards, straining again occurs, and then the muscular tunic gives way, and the feces escape into the cellular texture. Foreign bodies, however, in the rectum, sometimes cause abscesses. I mentioned two cases in the last lecture, but I shall mention them again. I mentioned them before, because they particularly appertained to the subject we were then discussing. I was called in by a gentleman, who complained of great irritation about the rectum. I thought that he laboured under internal piles, but the next day he complained still more, and on examination of the rectum, I found a hard substance sticking in the membrane. It was a piece of apple-core which he had swallowed the day before, and if it had not been extracted, it would have occasioned ulceration, some of the feces would have been pressed through the opening, and in all probability the apple-core would have been found in the cavity of the abscess. I was sent for to see another gentleman who was exceedingly ill with a large abscess in front of the anus. He had a brown or rather a black tongue, and had typhoid symptoms. I opened the abscess freely, let out a quantity of putrid offensive matter, and on introducing my finger into the abscess, I found a long fish-bone sticking across, with one end in the gut and the other in the abscess. He had swallowed the bone, it had stuck in the bowel, and a little of the feces escaping by the side, made a putrid abscess. Patients with disease of the liver, disease of the lungs, and in certain states of ill health, are specially liable to abscess and fistula of the rectum. The reason is this: persons thus affected are peculiarly liable to ulcer of the mucous membrane; one of the mucous glandules is attacked, and being very thin, it gives way under the straining that takes place to expel the feces, and feces escape through the opening.—*Lancet*, Jan. 20, 1844.

Foreign Bodies in the Nasal Passages and the Digestive Tube.

By Sir Benjamin Brodie.

Two or three years ago, I was consulted concerning a young female, who had some complaint in her nostrils. There was a putrid discharge from them, and those symptoms were present which usually indicate the presence of diseased or dead bone of the nostrils; and presuming that this was the nature of the case, I prescribed sarsaparilla, and treated her accordingly. This complaint had been going on since she was quite a child, and when I saw her, she was eleven or twelve years of age. Not long ago, in blowing her nose, something came out of her nostrils—a large solid substance. Her family thought that this was the piece of dead bone which was expected to appear, and it was sent to me; but, on examining it, I found that it was not bone, nor had it the appearance of ever having been organised. It was convex on one side and concave on the other, and seemed to have been formed upon a nucleus. Dr Prout was good enough to examine it chemically, and he found it to consist of dry mucus, with phosphate of lime, such as is secreted by an inflamed mucous membrane. The mucous membrane of the nose, like that of the bladder, will, when irritated, secrete phosphate of lime. I was led, from this, to conclude that, originally, some foreign substance had been introduced into the nose, and if it were a round body this would account for the concavity on one side of the concretion. Here was a case in which there was great reason to believe that some foreign body had been introduced into the nostrils, and had remained there for years, producing all the symptoms usually arising from diseased bone.

A gentleman, in a paroxysm of insanity, swallowed a pair of compasses three inches in length, and the family in great fright sent to me. The compasses had not stuck in the œsophagus, but had gone into the stomach. To think of looking for them there was quite absurd, and I told them to let him alone. He must have swallowed them with the blunt end forwards, and the probability was that they lay towards the pylorus. In the course of a fortnight, without his having suffered even a colicky pain, they one day found the compasses in a close-stool pan. He lived a considerable time afterwards, and never suffered any inconvenience from this exploit. Several persons have been in the habit of swallowing large bodies, and getting money for exhibiting the feat. A sailor, in America, in a drunken fit, swallowed a large knife. It went into the stomach, produced some colicky pains for a few days, and was then voided per anum. Two or three days afterwards he did the same thing, and finding that people stared at him, and gave him money, he went on with it. People went on purpose to see this exhibition of swallowing knives. By and by, however, he got into very ill health; there was severe colicky pain in the intestines, and in the abdomen; his stools always came away black; and he sank, and died. On examining the body several blades of knives were found, half destroyed, from the oxidation to which they had been subjected. But it seemed that the immediate cause of death was a large knife which stuck across the upper part of the rectum, running through both sides of the gut.

The great majority, even of large substances, taken into the stomach, pass through the pylorus, travel along the intestines, and find their way out at the anus. There are particular parts of the intestines, however, where these foreign bodies are most likely to stick; they may remain in the cul-de-sac of the cæcum. A woman was brought here with a tumour in the right iliac region. She died, and, on examining the body after death, an abscess was found connected with the cæcum, and in the middle of the abscess there was a pin. Over and over again women and children swallow pins, and they generally pass away without doing harm, but in this case the pin stuck in the cæcum, and getting into the cellular membrane, it caused a small infiltration of feculent matter, and produced the abscess. The part, however, in which foreign bodies are most likely to remain, is the rectum. No doubt that abscesses by the side of the rectum and fistulæ in ano, in many instances, arise from some foreign body sticking in the rectum. I was called to a gentleman suffering great uneasiness in the rectum. At first I thought there were piles, but when he described his symptoms more accurately, I was convinced that there was something more than internal piles. I introduced my finger into the rectum, and found that there was some hard substance above the sphincter, and which appeared to be half in the gut and half out. With some difficulty I dislodged it, seized it with a pair of forceps, and removed it. It turned out to be a large core of an apple, the sharp edge having stuck in the rectum. If it had not been thus removed, it would have made an abscess. I was sent for to a gentleman with a large abscess by the side of the rectum. The patient had a dry, brown tongue, and other typhoid symptoms, and I therefore concluded that it was full of putrid matter. I opened the abscess freely, and let out a large quantity of stinking putrid matter. Having done that, I thought it advisable to examine the abscess with my finger, and I found a hard body, sticking in it, like a great pin. With some difficulty I removed it, and it proved to be a fish-bone, perhaps two inches in length, one end of which had stuck in the side of the rectum, and the other lay across the abscess. He had swallowed it without being aware of it; it had passed easily down the œsophagus, through the stomach and pylorus, and all the coils of the intestines and cœcum, but when it reached the rectum, it passed through one side of it, allowed some of the fecal matter to intrude by its side, and caused this large abscess. Many cases are recorded by writers where the foreign bodies that have been swallowed have produced fistulæ.

When a foreign body has got into the stomach, you must consider it as out of your hands altogether, except that you must keep the bowels gently open. All violent purging should be avoided; for if there be a sharp pin, great peristaltic action may cause it to do much injury. You may exhibit lenitive electuary or castor oil, but you must not be in a hurry to expel the substance, for it will generally pass after remaining in for a week or a fortnight, and if it be a small body, it will come out much sooner. For the most part there is but little cause of apprehension, though in some cases unfortunate occurrences arise, as in the case of the woman who swallowed the pin. It is desirable to see that the substance does come away, and you must take care that the patient has his evacuations in a close-stool pan, and that they be minutely examined.

It has been proposed by the old writers to make an incision into the intestines, but at this time of day, I do not think it is necessary to explain how much better it is to leave the case to nature, than to have recourse to such a dangerous operation.

There is another matter of considerable practical importance, to which I wish to call your attention, with respect to matters supposed to be stuck in the œsophagus. A woman was brought to town who was thought to have swallowed a piece of bone, and I believe that there was no doubt that she had done so. I introduced my finger, and, not being able to feel it, I concluded that it was below the reach of the finger. I then passed an œsophageal bougie into the stomach, but could not feel it; I then introduced a probang with a sponge, but with no better effect; but still the woman had the sensation of its being there. I now began to doubt whether it really stuck there, and to suspect that the sensation she experienced indicated that some part of the œsophagus had been abraded or torn by the foreign body, but that the body itself had passed into the stomach. It is a common trick with conjurors to put a half-crown into the hands of a person, to press it firmly, and then to say to him, "You are sure it is there?" The party says "Yes." In fact, he has the feeling of it, but when he opens his hand it is not there. The sensation made by the pressure on the hand remains a considerable time after the body itself has been removed, especially if the feeling be assisted by the imagination. You get a piece of sand or gravel into the eye; it is taken out directly, but you persist in saying that it is there; for a little inflammation of the eye produces a feeling as if a foreign body were on the conjunctiva. So I thought it might be with this patient, who imagined that she had a bone in the œsophagus which she could not swallow. Under that impression I ordered an opiate blister; and, under its influence, the sensation was, on the next day, very much abated; and, on the following day, was entirely removed. I think that the rapid subsidence of the symptoms under this treatment proved that they depended on an injury inflicted, and not on a foreign body remaining there. I met with a similar case in the following instance:—A maid-servant was supposed to have something sticking in the œsophagus, but, with the largest bougie or probang, nothing could be discovered there. I treated her in the same manner, and, in a day or two, the sensation was gone, and she was quite well. I suspect that this is not a very uncommon case. A person sends to you, and says that he has swallowed a fish-bone; you cannot find it; in reality, it has passed on; but it has pricked the œsophagus. By leaving such cases alone, I have seen instances in which, in a day or two, the sensation has entirely disappeared.—*Lancet*, Jan. 6th, 1844.

PRACTICE OF PHYSIC AND PATHOLOGY.

ON LEPRA IN SARDINIA. BY M. TROMPES.

It appears from an investigation which M. Trompes has been commissioned by the authorities of Turin to make, that there exists throughout the Sardinian States about 100 lepers, with the disease well marked. This frightful malady is unquestionably contagious after it has reached the stage of suppurative ulceration, and is thus capable of being communicated either by direct contact with the patient, or by the linen. This occurrence is by no means rare, as the lepers in Sardinia, out of consideration for their misfortunes, are placed in tolerably easy circumstances, enjoying a pension of thirty francs a month, and thus have the means of communicating with those around them, though generally they avoid the public eye, and are abandoned even by their relatives through the fear of contagion. M. Trompes ascertained in the course of his tour, that lepra is not confined to the Sardinian States, but is equally to be met with in France, particularly in the districts bordering on Provence. The disease observed by him is essentially the same as the lepra of the Egyptians and Greeks, only modified by time and the progress of civilization. Out of 100 individuals examined by him, only three were found to present all the characters of the ancient lepra, and he is of opinion that the disease has been perpetuated in Europe to the present time, only through a want of sufficient care in the isolation of those affected, so preventing the spread of the contagion. The leper-houses of former times were no doubt imperfect; had means been taken to improve them, the disease would have been extinct; it was therefore wrong to destroy them. M. Trompes urges upon the authorities the necessity of isolating lepers, for which purpose he proposes that comfortable houses of refuge, provided with sulphur baths, should be built in proper situations, these establishments to be auxiliary to the hospitals, and under the same general administration.—*Annales de Thérapeutique*, Nov. 1843.

PREVENTION OF THE CONTAGION OF SYPHILIS.

The problem of the means of extinguishing syphilitic contagion, appears to have been solved at the hospitals at St Petersburg. In principle, it appears simple enough, the point to be effected being merely to prevent the absorption of muco-purulent matter, either by means of washings, which remove it directly, or by liquids, such as the chloride of lime, which have the property either of decomposing it, or of preventing otherwise its inoculation. In practice, however, it proves a matter of great difficulty, especially in the female. In St Petersburg, the most satisfactory results are said to have followed the use of the prophylactic soap of Dr Pfeffer. The active ingredients of this soap appear to be—in 500 grains of the substance, 6 grains of bichloride of mercury, 4 of tannin, and 45 of chloride of lime, incorporated into a soap with soda.—*Annales de Thérapeutique*, Nov. 1843.

INTESTINAL GASES.

French beans, as well as all the plants belonging to the families of the leguminosæ and cruciferæ, contain sulphur in large proportion. This accounts for the property they all have of giving rise, by their spontaneous decomposition, to sulphuretted hydrogen, or other sulphuretted gas.—*Annales de Thérapeutique*, Nov. 1843.

REMEDIES FOR RHEUMATISM.

Opium in large doses has again been recommended by Dr Reguin as the best treatment of acute rheumatism. He has been giving from four to seven grains daily, with or without bleeding, and has found it serviceable in allaying pain. After the fourteenth day the disease began to yield. Can opium then cure rheumatism? and if so, can it do so without injurious effects? By those who regard opium as a stimulant, and rheumatism as an inflammatory disease, it will be admitted that it may indeed be cured by this remedy, but at an immense risk, and that a form of the disease, in its origin slight, may be aggravated, and become fatal throughout treatment. Bleeding has been practised, along with large doses of opium. The practice is inconsistent enough, though some give it the name of *eclectic*, in other words, a practice based on no principles! In the principal Parisian hospitals, opium is not resorted to, though different physicians have different modes of treating; thus, M. Bouillaud uses bleeding, M. Briquet sulphate of quinine, and M. Martin-Solon nitrate of potass.—*Annales de Thérapeutique*, Nov. 1843.

DR ALISON ON THE EDINBURGH EPIDEMIC FEVER OF 1843.

I wish very much that I could command time to comply with your request, by giving you a fuller statement of what I have observed or can learn as to the present epidemic fever, which seems to be very general in the great towns of Scotland; but at present I can do no more than set down the following, as the general results of these observations; some of them rather as heads of inquiry not yet fully prosecuted.

While a small number of cases continue to occur, showing the usual symptoms of typhoid fever, such as has prevailed here, with some variations, since 1826, the great majority of cases of fever now occurring, especially among the poor, are essentially different in their symptoms and progress from any of those strictly typhoid cases, and indeed from any form of continued fever that I have seen generally prevalent, especially in the following particulars:—

1. The duration of these cases, at present so frequent, is uniformly short; some have a crisis on the fifth day; a majority, I think, on the 7th, and hardly any are protracted beyond the 9th day. Where death has taken place, it has also been very early; in one case, which was seen from the beginning, because originating in the hospital, it was on the 5th day; and I think in every case that I have seen or heard of, it was before the 9th day.

2. None of those cases running this short course, have shown the true febrile eruption, resembling measles, although many have shown petechiæ, or circumscribed purple spots originating in flea-bites, and extending apparently by little ecchymoses.

3. A proportion, quite unusual in this country, of these cases, have become yellow, generally very quickly, about the 5th day of the disease. For example, of four of the gentlemen acting as clerks, who have taken the disease, three have been quite yellow.

This yellowness, in the cases I have seen, has been almost uniformly attended with more or less of fulness, dulness on percussion, and tenderness in the hypochondrium, generally with much vomiting, sometimes of dark green bile, sometimes of the brownish matter like hare soup, so often seen in cases of organic abdominal disease. I have not myself seen any black vomiting, but in several cases the stools have had the usual appearance of melæna, evidently from exudation of blood. The bile has not, in several, if it has ever, disappeared from the stools during this state. On dissection of the fatal cases attended with yellowness, (of which I have seen four, and been informed of several others), the bile ducts have always appeared pervious, and not compressed by any swellings of adjacent portions of liver. Dr Peacock informed me that in several cases he had seen the bile in the ducts so thick and viscid, as apparently to cause obstruction; but this was not the case in any of those I saw; indeed, in all these there was abundance of bile in the duodenum, as well as the ducts; in which respect this jaundice differed from what I have seen in some cases of jaundice from non-elimination of bile, equally as from the more common case of jaundice from obstruction. The liver was large, but without either inflammatory exudation or other distinct change of structure.

Most of the fatal cases have been jaundiced, more or less; but some, rapidly fatal, have not; and many jaundiced cases have had the crisis at the usual time, and gone on quite favourably, with little treatment.

I think most of the jaundiced cases have shown the petechial spots above noticed, and in one a blister applied over the epigastrium rose filled with serum coloured quite black, and retained the black colour till the cuticle had separated, but without any bad consequences. There have been many cases of these petechiæ, however, without jaundice.

4. Both in the jaundiced cases, and in others, there has been an unusual degree of sickness and vomiting, and lasting longer during the disease than in ordinary cases of fever; always abating, I think, when the critical sweats took place.

5. Almost every case has relapsed; the relapse, I believe in a majority of cases—certainly in a large proportion, taking place on the fourteenth day. The relapse has been almost always of shorter duration than the first attack, and, I think, seldom attended with jaundice; but I have seen three old persons who died in it. In one fatal case of relapse, of which I saw the dissection, there was a great extent of inflammation of the mucous membrane of the bowels.

6. The disease has abated almost, if not quite uniformly, by critical sweating, and the sweats have been more frequently preceded by well-marked and violent rigors, than I have ever before seen.

7. During and after these sweatings, and particularly after the relapse, there have been very generally severe pains of the limbs, unattended with swellings, but having the character of muscular rheumatism. In several cases there have been, during the convalescence, sharp stitches in the sides, chiefly, if not entirely, muscular, but bearing the loss of blood well.

8. The mortality has been very small;—I think not above one in thirty of the cases I have seen, although I cannot be precise as to the number. The fatal cases were, as usual in fever, chiefly in old persons, or where there was obvious complication. I have seen two fatal cases, however, in young and previously healthy persons, though enfeebled by previous circumstances; the one a labourer out of employment, the other a deserted mother, with a natural child at the breast, obviously exhausted by want.

Another peculiarity of this fever coming under my observation, has been, that every pregnant woman whom I have seen in it has miscarried. In two cases, where the child was nearly at the full time, (but born dead,) the death of the mother followed within three days. In one of these the hæmorrhage was considerable; but in both the uterus contracted well, and showed neither effusion of blood, nor inflammatory appearances on dissection. In both there was an attack of sharp pain in the side, about twenty-four hours after delivery, followed by rapid sinking. In one, this was attended with pneumonic sputa, but with feeble pulse, dry tongue, and rapidly supervening jaundice and stupor; the lower lobe of the right lung was found in a state of soft hepatization. In the other case, the only appearance to explain the attack of pain was a great enlargement and softening, though without any inflammatory exudation, of the spleen. This woman did not become jaundiced, but her body, examined only sixteen hours after death, was found to have putrified with most unusual rapidity, and the globules of the blood found in the heart at that time appeared, under the microscope, quite irregular both in form and size.

In some of the particulars now stated, this fever has closely resembled others, especially in the latter period of epidemics; the crisis on the fifth or seventh day, and the relapse about the fourteenth, were frequent in the Irish epidemic of 1818—20, and particularly noticed by Dr Christison and others, at that time in Edinburgh; but, in other particulars, *e. g.* the frequency of jaundice, and the almost uniform severity of rheumatic pains, during and after the relapse,* this epidemic is certainly different from any that we have seen here.[1]

The earlier symptoms of the disease are often milder than of the strictly typhoid cases;—many of the patients walked into the Infirmary, and some came on foot from a considerable distance in the country, without the disease being apparently aggravated by the exertion;—but, in most cases, the oppression, headach, and want of sleep, in the first stage of the disease, and, in many cases, the usual affections of the pulse, tongue, and sensorium, were equal to what we generally see in the first week of fever; and the mode of fatal termination, so far as I can learn, has been like that in other forms of fever;—*i. e.* it has resulted from a combination of local symptoms indicating embarrassment of function, and an alteration of structure on some organ, generally of the brain,—with general failure of the circulation.

The great majority of cases have evidently required very little treatment, and I have seen several instances of patients lying at home, with no medical attendance, and nearly as little of comfort as is compatible with human existence, who have nevertheless had the crisis on the seventh day, and recovered speedily. Nevertheless, I have no doubt that, under the judicious use of remedies, restricted to the objects of relieving symptoms and subduing local complications, the sufferings of the patients may very generally be mitigated, and the danger of the disease, in some instances, diminished or averted. I have had several patients bled at the arm to a small amount, and seen others bled more largely, with great relief to the headach and other uneasy feelings of the early stage, and without the apprehension of subsequent bad effect, which might be entertained when we know that a continuance of variable typhoid symptoms is to be expected; but the remedy has not appeared to me either materially to shorten the disease, or prevent relapse, and some of the patients who were bled (as we used to remark twenty-five years ago) have had a slow unsteady convalescence. Leeching, shaving, and washing of the head, with purgatives, have very generally given relief in the early stage, and, after these remedies, an opiate at night, as early as the third day, and repeated several days, has generally appeared signally useful, as a palliative to the very uneasy sensations of this period. The saline medicines, in cases of delirium,—with firm pulse, the antimonial solution, with morphia, —and, in other cases, the Dover's powder,—have repeatedly appeared to favour the salutary sweats: and, when there has been much of the sickness and vomiting, blistering the epigastrium, (often after leeches), and small doses of calomel and opium,—sometimes followed by ptyalism,—have certainly restrained these symptoms, but in some severe cases of that kind, with or without the jaundice, attended with feeble pulse and rejection of all stimulants, the anodyne enema has appeared a more powerful remedy than any other that I have used in the disease.

Some patients with many petechiæ have recovered rapidly under the use of the *chlorate of soda*, but without affording any certain evidence as to the effect of that medicine. Few have appeared to require large doses of wine or other stimuli, and many have recovered rapidly without any; but there have been some cases before any crisis, and many just after the critical sweats, in which the pulse has been very soft, and the general marks of debility urgent, and stimuli have appeared clearly indicated, and the improvement under them remarkable.

It is a curious and interesting question, whether this kind of fever has proceeded from the same poison as the usual typhoid fever of Edinburgh, or is truly a separate disease? It is quite certain that the one has succeeded the other, within narrow limits, both of time and space, in different parts of the town; and I have seen two cases, in which strictly typhoid cases, with the characteristic eruption, have been brought in from the same rooms, in which a succession of the milder cases have occurred at the same time. But, on the other hand, I am aware of several cases, carefully investigated by my friend and colleague, Dr Henderson, in which a succession of protracted typhoid cases has been traced to one room, while all the cases in the neighbourhood have been of the mild and short fever. And one man under my care, after passing through a protracted typhus, with the characteristic eruption, and threatening of ulceration of the bowels, relapsed with the symptoms of the usual epidemic, of which cases were lying beside him, and had the usual crisis, and the second relapse,—so that he might be said to have gone through both diseases in their present form, before leaving the ward.

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[1] By referring to the published accounts of the fever of 1818, it will be seen, that jaundice and rheumatism characterised it.—*Vide Cormack on the Fever of* 1843. Edin. 1843.

This epidemic has certainly differed materially from all other epidemics of fever that I have seen in Edinburgh, in extending so widely and rapidly during the summer season; but, in regard to the mode of its extension, and the description of persons liable to it, it has been exactly similar to those other epidemics; and as to its contagious nature in particular, I have seen just as good evidence, both within the hospital and out of it,—from its affecting attendants and nurses,—from the importation of the disease into particular districts, stairs, or closes,—from the succession of cases in these districts, apparently regulated by the degree of intercourse with the sick,—and from the great variety of situations and circumstances (excepting only the single common circumstanee of intercourse with persons previously affected) in which these succession of cases have occurred,—as I have seen and described on former occasions as proof of the contagious nature of our usual continued fever.

It is worth while to add, that although it is certainly possible that some of the peculiarities of this fever may be connected with the unusually warm and dry weather of the last ten weeks; yet cases showing the chief particularities, and particularly the jaundice, occurred early in the season, when the weather was still cold and wet.

I have collected a number of facts, illustrating and confirming what I have formerly stated, as to the strong predisposition given to this, as well as to the more usual form of fever in Edinburgh and other Scottish towns, by the destitute condition of a large portion of the people. But these facts seem to me of such importance, with a view to practical measures of prevention, that I reserve them for a separate publication."—Reprinted from *Scottish and North of England Med. Gazette*, Oct. 7th, 1843.

ON THE DUNDEE EPIDEMIC OF 1843. BY J. ARROTT, M.D., Physician to the Dundee Infirmary.

I shall give a short account of the fever, as it has appeared here, following the arrangement observed in the paper by Professor Alison; premising, however, that the typhus fever, which usually prevails in Dundee, had gradually declined from 773 cases, admitted into the Infirmary, from June 1835 to June 1836, to 194 cases, admitted from June 1841 to June 1842.

At that time the weather was mild and genial. As the summer advanced, however, the heat increased to an unusual degree, and so little rain fell, that many springs, and even streams of considerable size, became dry; and the number of patients sent to the Infirmary rapidly increased,—the exact number admitted during the months of June, July, and August, being 363; and the number during the months of September, October, and November, being 559. These numbers represent the number of patients admitted with all kinds of disease, but the greater part were ill, either of typhus fever, or of a fever which, in its symptoms, resembled yellow fever; the yellow fever giving place to the typhus as the winter advanced; the yellow fever again increasing as the weather became warmer, and both the yellow and typhus fever are at present prevalent.

In the following observations, which apply only to the cases of yellow fever, I shall follow the order of the paragraphs in Dr Alison's paper:—

I cannot at present state the exact duration of the disease in Dundee; in many cases, however, it was protracted beyond the ninth day. I may state also, that during the last few years, the average length of time each patient resided in the Infirmary, has been twenty-one days; while from June 1841, to June 1842, (the Infirmary year being from June to June), this fever being epidemic during that time, the average length of time each patient resided in the Infirmary, was only sixteen days.

In Dundee, I have only seen one case in which there was a combination of the symptoms of this yellow fever, with the eruption resembling measles, so frequently observed in typhus fever. Petechiæ have here, as in Edinburgh, been very common.

3. Dr Alison states, that in Edinburgh, "a proportion quite unusual in this country of these cases have become yellow, generally very quickly, about the fifth day of the disease." The same thing has been observed in Dundee. It is stated, that this yellowness in the Edinburgh cases "has been almost uniformly attended with more or less fulness, dulness on percussion, and tenderness in the hypochondrium, generally with much vomiting, sometimes of dark green bile, sometimes of the brownish matter like hare soup, so often seen in cases of organic abdominal disease." All these symptoms have also been observed in Dundee.

Dr Alison further states, that he "has not seen any black vomiting; that most of the fatal cases have been jaundiced more or less, but some rapidly fatal have not." Black vomiting has been quite common in this disease in Dundee, and in all the cases which I have seen terminate fatally, the skin was yellow. The duration of the disease in fatal cases, the frequency of yellowness of the skin, and of black vomit, may be ascertained from the following table of the whole of the cases that have terminated fatally in the Dundee Infirmary—seven of them under my own care previous to June 1843, and nine of them under the care of my colleague since June 1843.

No.	Name.	Sex.	Age.	Day of the Disease on which Patients died.	
1	D. Y.	M.	60	12th.	Skin yellow, black vomit.
2	J. A.	M.	43	11th.	Skin yellow, no vomit.
3	W. P.	M.	55	15th.	Skin yellow, no vomit.
4	W. B.	M.	28	11th.	Skin yellow, brownish bilious vomit.
5	J. G.	M.	38	17th.	Skin yellow, no vomit.
6	D. M.	M.	64	9th.	Skin yellow, brownish bilious vomit.
[1]7	M. W.	F.			Skin yellow.
8	R. A.	M.	69	11th.	Skin yellow, black vomit.
9	T. R.	M.	44	15th.	Skin yellow, black vomit.
10	M. N.	F.	25	14th.	Skin yellow, black vomit.
[1]11	M. F.	F.	33		Skin yellow.
12	M. M.	F.	30	11th.	Skin yellow, black vomit.
13	J. B.	M.	40	9th.	Skin yellow, no vomit.
14	J. R.	M.	36	15th.	Skin yellow, black vomit.
15	C. M.	F.	30	7th.	Skin yellow, no vomit.
16	W. M.	M.	60	8th.	Skin yellow, no vomit.

In regard to the *post-mortem* appearances, stated as being observed in Edinburgh, I shall only remark, that here the bile is frequently found in the thick viscid state described in Dr Alison's paper, and farther, that the *post-mortem* appearances observed in Dundee correspond most remarkably with those observed by the French Commission in Gibraltar, in 1828; and, that at the dissections which have been made in the Infirmary, we have been particularly struck with finding, in every case, the same diseased state of the liver, which Louis considers as the anatomical character of yellow fever.

The descriptions of the Edinburgh epidemic, as given in paragraphs, Nos. 4, 5, 6, and 7, correspond with what I have seen in Dundee, with the exception of the statement, in regard to the death from a relapse, as I have seen no death from relapse, and no death without yellowness of the skin.

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[1] Nos. 7 and 11 died a short time after admission; and, consequently, all the particulars in regard to them have not been stated in the Infirmary books.

In reference, also, to paragraph 7, I did not consider it necessary to bleed patients for the stitches in their sides, and, of course, am ignorant whether or not they would have borne the loss of blood well.

8. Dr Alison states the mortality in the Edinburgh epidemic to have been very small—not above one in thirty. Between June 1842 and June 1843, I admitted 672 persons, ill of this disease, into the Dundee Infirmary, and of these only seven died. It may not be unimportant to state, that during the same period, I admitted 941 cases of *typhus fever* into the Infirmary, and, of these, sixty-one terminated fatally.

Dr Alison states, as another peculiarity of the Edinburgh epidemic, every pregnant woman whom he saw in it miscarried. I believe, that abortion has not been so common in Dundee as in Edinburgh, but I cannot speak decidedly on this point.[1]

The similarity, in some respects, of the present Edinburgh epidemic, with the Edinburgh fever of 1818, is remarked by Dr Alison. In addition to the points of resemblance noticed by Dr Alison, the yellow colour of the skin, the most remarkable symptom of the present epidemic, is stated both by Professor Duncan and Dr Yule, to have occurred in the Edinburgh fever of 1818.[2]

A short cough, sometimes with, sometimes without expectoration, has been a very frequent symptom here, and eruptions of herpes have taken place in many of the cases; in several cases, also, there have been profuse discharges of blood from the nose; and when leeches were applied in the several cases, great difficulty was found in stopping the bleeding from their bites. In almost every instance in which blood was taken from the arm by the lancet, there was very little appearance of separation into serum and crassamentum; the blood, as it coagulated, adhering firmly to the sides of the vessel into which it had been received, and having very much the appearance of a cupful of firm jelly. When taken from the cup, and examined, the red globules were not found in so great a proportion towards the surface as at the bottom of the mass, although the separation of the colouring matter from the coagulating lymph, did not seem to have taken place to so great an extent, as is generally the case in blood that exhibits the appearance termed buffy coat.

The similarity of the appearances during life, and of the morbid appearances observed after death, so nearly agree with the descriptions of the yellow fever of the West Indies, and with the minute accounts of the Gibraltar epidemic of 1828, given by Louis, as to leave little doubt on my mind, that the only difference between these diseases and the Dundee epidemic, if difference there be, is a difference in degree and not in kind.—Abridged from *Scottish and N. of England Med. Gazette*, Dec. 2, 1843.

On the Glasgow Epidemic Fever of 1843. By Dr David Smith.

[The field of Dr Smith's labours has been in the lowest, filthiest, and most densely inhabited part of the city, among labourers, hawkers, beggars, thieves, and prostitutes; so that, as he himself states, there has been no scope for minute clinical study of the fever.]

He first describes minutely the symptoms in the most simple form of the fever; the number of cases of this kind met with in conducting the treatment of 1000 successive cases, was 205. The most frequent complication was gastric irritation; the number of cases of this affection was 643. The next most frequent complication was jaundice; the cases, with this complication, amounted to 384. The next in point of number, were those with petechiæ, of course perfectly distinct from the exanthematous eruption of typhus; the number of cases with petechiæ was 314.

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[1] Why speak at all then?

[2] Edinburgh Clinical Reports for 1818. By Andrew Duncan, M.D., page 29. Observations on the Edinburgh Fever of 1818. By J. Yule, M.D., page 3. Edin. 1818.

Diarrhœa and dysentery prevailed to a greater or less extent in 167 cases. Inflammatory affections of the chest were pretty frequent on the first appearance of the epidemic, bronchitis somewhat extensively throughout the whole epidemic, and most severe among children; pneumonia and pleuritis were seen accompanying the "relapse" only, and were present in 3 cases each. Epistaxis occured in 13 cases; and a troublesome form of cynanche in 9. In every case which came under his observation, in which pregnancy existed (16 in number), abortion took place. Relapses occurred in 712 cases. The most frequent of the sequelæ was rheumatism, not a sixth portion escaped without suffering more or less from it. That this fever is communicable from the sick to the healthy, he has not a shadow of a doubt. In all, 43 patients died; in 10 diarrhœa was present; in 9 jaundice; in 4 vomiting; in 12 diarrhœa, jaundice, petechiæ, &c.; in 2 dysentery; in 5 bronchitis; and in 1 pneumonia. He has tested the effects produced by emetics, diaphoretics, and other evacuants, in cutting short the progress of the disease, but has never seen a satisfactory arrestment of the fever, and he believes that it cannot be cut short at its outset by any means.—Abridged from the *Edin. Med. and Surg. Journal*, Jan. 1844.

COMPOSITION OF THE BLOOD AND URINE OF CHLOROTIC PATIENTS, AND EFFECTS OF THE PREPARATIONS OF IRON IN THIS DISEASE. BY DR HERBERGER.

The blood of a young girl, 20 years of age, and chlorotic in the highest degree, but otherwise of robust and sanguine habit of body, yielded a pretty rich clot, without any trace of the buffy coat. 1000 parts consisted of

a. Water,	868·34
Solid matters,	131·60

After using various preparations of iron for two months, its composition was found to be

b. Water,	807·08
Solid matters,	192·92

The solid matters in the two specimens consisted of the following:—

	Specimen *a.*	Specimen *b.*
Fibrine,	3·609	1·950
Albumen,	78·200	81·509
Globuline,	36·470	94·290
Hæmatosine,	1.590	4·029
Fatty matters,	2·310	2·470
Extractive and salts,	8·921	8·263
Loss,	0·500	0·409

The urine of the same patient was examined three times on different days before the use of the iron, and twice after the cure. The following are the results:—

Urine during the Disease.

	(1.)	(2.)	(3.)
Specific gravity,	1·010	1·009	1·012
Quantity in 24 hours,	32 oz.	42 oz.	35 oz.
Water,	975·43	978·21	971·98
Solid matters,	24·57	21·79	28·02
Urea,	7·04	7·00	7·12
Uric acid,	0·13	0·21	0·19
Extractive matters,	10·48	9·00	13·99
Salts,	6·80	5·50	6·62
Loss,	0·12	0·08	0·10

Urine after the Cure.

	(1.)	(2.)
Water,	940·16	938·70
Solid matter,	59·84	61·30
Urea,	26·84	27·36
Uric acid,	0·94	0.96
Extractive matters,	18·62	16·28
Salts,	13·32	15·71
Loss,	0·12	0·99

After being cured of the chlorosis, this girl had an excellent appetite, and lived on a full animal diet. During the course of the treatment, the author assured himself in the most positive manner of the presence of iron in the urine, (particularly that of the morning,) and in the sweat, which is contrary to the statements of Gélis and Wöhler. In another case, however, the author was unable to detect any traces of iron in the urine.—*L'Expérience*, Dec. 2, 1843.

NEW RESEARCHES ON THE URINE IN THE STATES OF HEALTH AND DISEASE.

BY DR LEHMANN of Leipsig.

This author states, that for fifteen days he collected all his urine, and each day made an analysis of the quantity passed during twenty-four hours. During the whole period, he observed a rigorous diet, taking no more solid or liquid aliment than was needed to appease hunger or thirst. Every two hours he took exercise in the open air, and abstained from all fermented drinks and immoderate exertion. The average composition of the urine was as follows :—

Urine,	1057·800
Solid matters,	67·820
Urea,	32·498
Uric acid,	1·183
Lactic acid, (free and in combination),	2·257
Extractive matters,	10·508
Phosphate of soda,	3·673
Earthy phosphates,	1·097
Alkaline sulphates,	7·026
Mucus,	1·037
Sodaic and ammoniacal chlorides,	3·518

In one series of experiments, the author lived for twelve days on a diet purely animal, and for the last six of these days it consisted exclusively of eggs. He took 32 eggs daily, or 479·28 grammes of yolk, and 736·32 grammes of white. They contained 189·7 grammes of dry albumen, and 157·48 of fatty matters, or about 228·75 grammes of carbon, and 30·16 of azote. The mean result of twelve observations on the composition of the urine is as follows :—

Urine passed,	1202·500
Solid matters,	87·440
Urea,	53·198
Uric acid,	1·478
Lactic acid,	2·167
Extractive matters,	5·145
Phosphate of soda,	3·421
Earthy phosphates,	3·562
Alkaline sulphates,	10·399

The correspondence between the azote of this urine and that of the food taken is remarkable. Of the 30·16 grammes of the azote of the eggs, 25·623 were eliminated in the form of urea. If we take into account the uric acid and the extractive matters as also containing azote, none of this gas remains to be eliminated with the perspiration, the salts, &c. We must also bear in mind that the organism has received a great quantity of azote, and that the other excretions have not been augmented. This correspondence, therefore, proves that the kidneys are the channels by which the system can at once free itself from an excess of azote, and that the combinations of proteine introduced in excess into the intestinal canal, are absorbed in a sufficient degree to be transformed into bile and urine. The excess of proteine, therefore, does not traverse the intestinal canal unchanged, and is not the source of the azote found in the excrements,—that results from the biliary products poured out by the liver.

A purely vegetable diet yielded on the average of twelve experiments,—

Urine,	909·000
Solid matters,	59·235
Urea,	22·481
Uric acid,	1·021
Lactic acid,	2·531
Extractive matters,	16·499

Two observations on a diet entirely deprived of azotized matters, gave the following results :—

Solid matters,	41·680
Urea,	15·408
Uric acid,	0·735
Lactates,	5·276
Extractive matters,	11·854

Of the whole four series of experiments, the following is a *resumé* :—

	Solid Matters.	Urea.	Uric Acid.	Lactic Acid and Lactates.	Extractive Matters.
Mixed diet,	67·82	32·498	1·183	2·257	10.480
Animal diet,	87·44	53·198	1·478	2·167	5·145
Vegetable diet,	59·24	22·481	1·021	2·669	16·499
Non-azotised diet,	41·68	15·408	0·735	5·276	11·854

The results of these researches may then be stated as follows :—1. Animal articles of diet augment the solid matters in the urine. Vegetable substances, and still more such as are deprived of azote, on the contrary diminish it. 2. Although azote be a product of decomposition of the organism, yet its proportions in the urine depend also on the food, for we find a richly azotised diet augment considerably the quantity of urea. In the above experiments the proportions of the urea to the other solid matters was as 100 to 116 in a mixed diet; as 100 to 63 in an animal diet; as 100 to 156 in a vegetable diet; and as 100 to 170 in a non-azotised diet. 3. The quantity of uric acid depends less on the nature of the diet than on other circumstances, the differences observed in it being too slight to warrant us in ascribing them to the former cause. 4. The combinations of proteine, and consequently the azote of the food, are absorbed in the intestinal canal—and what is not employed in the separation of the organs is thrown off by the kidneys in the form of urea or uric acid—these organs being the sole channel by which the system frees itself of its excess of azote. 5. The urine contains quantities of sulphates and phosphates proportioned to the azotised matters which have been absorbed—and the proportion of these salts is sensibly increased under the use of combinations of proteine mostly pure. 6. In the same circumstances the extractive matters diminish, while their quantity is increased by the use of vegetable diet—a fact which proves the influence of vegetable aliment over the production of these matters in the urine. 7. Under an animal diet the quantity of lactic acid diminishes, but the greater part of this acid is free. It is the reverse under a vegetable diet—there is more lactic acid, but united to bases. The largest production of lactic acid is under a non-azotised diet, and most of it is then combined with ammonia. Therefore, the lactic acid eliminated with the urine, is in great part the product of non-azotised substances not entirely assimilated; but it results also in part from the decomposition of the azotised substances entering into the organs of the body and the food. 8. The kidneys not only separate certain constituent parts of the organs which have become inadequate for the maintenance of life, but they also expel the superfluous nutritive matters that may have been absorbed.

Here it may be well to relate briefly the results obtained from the extensive researches of Lecanu and Becquerel. Lecanu has found the *quantity* of urine passed in the 24 hours to range in 16 persons from 525 to 2271 grammes. Becquerel has obtained 1267·3 grammes as the average of 4 males, and 1371·7 as the average of 4 females. As regards the *solid matters*, Lecanu has found that the urine has the highest specific gravity in men, and in early life. According to Becquerel, the average solid matter formed by 4 men in one day was 39·52 grammes, and those passed by 4 women 34·21. As to the amount of *urea* yielded in a day, Lecanu has obtained the following results from observations made during 12 days, on men, women, old persons, and children.

Men,	average,	28·05
Women,	„	19·11
Old persons,	„	8·11
Children of 8 years,	„	13·47
Children of 4 years,	„	4·50

According to Becquerel, men secrete on an average, 17·37 grammes, and women, 15.582 grammes of urea. These differences in the results may be explained, by differences in the operative procedure or by the idiosyncrasies of the subjects of the experiments. The production of *uric acid* is still more variable. Thus, according to Lecanu,

A man of 20	years produces	0·995	of uric	acid
A man of 22	„ „	0·997	„	„
A man of 38	„ „	1·120	„	„
A girl of 19	„ „	0·472	„	„
A woman of 43	„ „	0·454	„	„

According to Becquerel the average of 4 men is 0·495 grammes, and of 4 women 0·557. The differences found by L'Heritier are as 0·3 to 0·7 grammes. Lecanu has not determined precisely the quantity of *lactic acid* and *extractive matters*. Becquerel gives as an average for men 11·783 grammes in the day, and for women, 9·655. The average obtained by M. Lehmann, in a mixed diet, is 13·133 grammes. The *salts* vary extraordinarily. Lecanu's averages are, —men, 16·88, women, 14·38, children, 10·05, old persons, 8·05. Becquerel's are, —men, 9·751; women, 8·426. M. Lehmann in his own urine, 15·245 grammes. The amount of chloride of sodium varies greatly, according to the nature of the food, and individual peculiarities. All this tends to show how variable are the relations between the constituent parts of the urine, and consequently how much caution is necessary in pronouncing upon an analysis of that fluid. Lecanu in particular has made us acquainted with the difference in the constitution of the urine *at different ages*. It appears from his researches that men in the prime of life secrete most solid matters, women less, and old persons and children least of all. In further results from what has been stated, that *external circumstances* modify the constitution of the urine, M. Lehmann has made observations on his own urine, with a view of estimating the extent to which such influences act. After violent exercise he found a relative increase of urea, lactic acid, the phosphates, and the sulphates, and a diminution of the uric acid and extractive matters. The average of 6 observations is as follows. For 24 hours

Urine,	991·600
Solid matter,	82·594
Urea,	45·314
Uric acid,	0·642
Lactic acid,	3·104
Extractive matter,	8·455
Alkaline phosphates,	4·598
Alkaline sulphates,	5·047
Earthy phosphates,	1·165

This corresponds with the observations of F. Simon. It is a question of some importance, whether an augmentation in the amount of water secreted by the kidneys, necessarily increases the quantity of solid matter. Lecanu says not. Some observations of Lehmann would lead him to the contrary belief. But as in most of his experiments on himself, he suffered from congestion of the thoracic viscera, he does not place implicit reliance on them. Becquerel's researches indicate very decidedly an augmentation of the solid matter. He passed on an average 33·853 grammes of solid matter. After a litre (nearly two pints) of water 37·209; and after two litres, 43·876. To this circumstance Becquerel ascribes the efficacy of diuretics; but this is questionable, for in Germany, at least, they are not given in such a state of dilution, that we can attribute their diuretic action solely to the water. Fourcroy, Marcet, and Schultens, have stated that, after copious sweating, and consequently in warm climates and in summer, the urine contains less uric acid, and that in circumstances opposed to these, as when transpiration is arrested by humidity of the atmosphere, it presents the opposite condition. Lehmann has not found such differences in the circumstances stated.

Meats of difficult digestion, and meats highly spiced, augment the quantity of uric acid. Becquerel has often remarked, that in convalescents who suddenly resume their habitual regimen, the urine is for some time richer in uric acid. The same has been observed after the use of spirituous drinks. Donné always found oxalate of lime in the urine after drinking champagne. This has not occurred to Lehmann, but he is enabled to confirm the observation of Simon, that oxalate of lime is often to be found in the urine of scrofulous children, particularly such as are affected with rickets. The urine of *pregnant women* presents a peculiarity of composition, especially at the second or third month—from the fourth to the seventh it becomes less observable. When allowed to stand, it deposits, in the course of twenty-four hours, a light white-coloured sediment—after a few hours longer small rounded particles become detached from this sediment, and form on the surface of the fluid a thin pellicle, which, under the microscope, appears to consist of globules, flocculi, and threads. This matter becomes again resolved into two portions, a greyish sediment, which is thrown down, and a membranous coating, which attaches itself to the sides of the utensil. The gravidine seems, however, sometimes to be absent from the urine of pregnant females. In other respects it differs little from that of other women. According to Lubanski, it contains less free acid, and is often neutral, and even alkaline; but Lehmann has found as much acid as in ordinary urine, though it more readily becomes alkalescent. He has always found it to contain less of the phosphate of lime, and more of the phosphate of magnesia, than ordinary urine. This salt predominates, especially in the later months, and then the urine is paler and more diluted. The free fatty matter, which is often met with in the form of vesicles, doubtless proceeds from the parts of generation. The urine of a lying-in woman, who did not nurse, yielded in the eight days following delivery so great a quantity of butyric acid, as could not have proceeded from the genital surfaces.

Becquerel and Simon have particularly studied the changes of urine in disease. The urine of fever patients is, as is well known, of a more or less intense red or brownish colour, very acid, and exhaling a strong odour. During this disease the secretion is generally scanty, and the liquid is more concentrated, the water being more diminished in proportion than the solid matter. The most invariable signs of febrile urine are a relative and absolute diminution of the inorganic salts, and the increase of uric acid and its salts. The diminution tells most, according to Lehmann, on the phosphates and sulphates,—according to Simon, on the chloride of sodium. The combinations in which uric acid is deposited are various, but not influenced, to all appearance, by the phenomena of the disease. Most commonly it is deposited in combination with ammonia—at times remaining suspended in the urine—at times forming an abundant soft precipitate—at others, a solid earthy powder. The urate of ammonia is commonly mixed with a little urate of lime. More rarely, the uric acid is deposited in the form of chrystals, recognisable by the naked eye. Even when there is no deposit, the urine contains an excess of uric acid, as may be detected by the action of nitric acid. The urate of ammonia redissolves by heat, which is not the case with the sediment consisting of uric acid. In the urine of fevers, the urea is sometimes increased, sometimes diminished, and sometimes normal. The quantity of extractive matter is usually greater. Lehmann has always found an augmentation of lactic acid, free or combined, in febrile urine; but such urine is often apt to lose its acid property speedily, and to become alkaline. The extractive matters are found in greater proportion only where the blood is overcharged with decomposed principles, which are imperfectly oxydized—as in typhus. The absence of the salts of the blood, which doubtless facilitate the oxydation of its constituent parts, may explain the passage of these unoxydised materials into the urine—thus also we may account for the passage of albumen by the kidneys in typhus and other febrile diseases.

In many affections where the blood contains a large quantity of deleterious principles, which cannot be excreted for want of sufficient oxydation, the uric and lactic acids of the urine are often increased, while the urea is diminished. Such are scrofula, rickets, arthritis, mollities ossium. Though ignorant of the essence of these diseases, we are at least certain that they are always connected with an incomplete oxydation of the materials of the blood, which thus become unfit for use, and must be rejected. In scrofulous diseases, where the blood is deficient in salts, the urine ordinarily differs little from normal urine. But, on the one hand, we can recognise the incomplete transformation of the compounds of proteine, in the richness of the blood of scrofulous persons in fibrine, for it is more than probable that this is but an oxydised form of albumen; and, on the other hand, we often find an increase of lactic acid, free or combined, in the urine, which is a sign that the great quantity of lactic acid, yielded by the non-azotised food, and constantly generated in the system, is in such cases very imperfectly burnt to form water and carbonic acid. In the urine of scrofulous persons, too, we often find oxalic acid, purely in consequence of defective oxygenation, for how easy is it to convert oxalic acid into carbonic! In fact, in scrofula and tubercle the defect of oxydation tells rather on the constituents of the blood than of the urine, whence, in tubercular diseases, we chiefly find changes of the urine depending on the presence of fever, hæmoptysis, or other accidental causes. In arthritis the oxydation of the azotised principles has gone further. Here large quantities of uric acid are formed, to the expulsion of which the kidneys are inadequate; and we have deposits, not of proteine and allied matters, as in scrofula and tubercles, but of concretions consisting of urates of soda and lime. In arthritis the quantity of lactic acid is little increased; that of uric acid very much so. In rachitis it is the reverse. Rickety children yield a urine extremely rich in lactic acid, and also containing oxalic acid. This urine often carries off four times as much phosphate of lime as is contained generally in the urine of children. The uric acid is not absolutely augmented in it, but proportionally so to the urea, which appears to be diminished in these cases. Whether rachitis is dependent or not on an accumulation of lactic acid in the *primæ viæ*, that acid is always imperfectly oxygenised, and of the azotised materials the smaller portion is converted into urea. In the malacosteon of adults, a disease often confounded with rickets, and which ordinarily presents itself along with symptoms of arthritis, a considerable augmentation of lactic and uric acids has been found at one and the same time. In rickets, therefore, there is incomplete transformation of non-azotised substances; in arthritis of azotised; and in malacosteon, of both. So also the composition of the bones differs in the three diseases. In rachitis the lactic acid dissolves the earthy matter of the bones, and they become flexible, their organic matter remaining intact. In malacosteon this last is partly absorbed, and the bony tissue rarified. In arthritis the lactic acid dissolves proportionally little of the phosphate of lime, and thus the bones of arthritic patients are less rich in earthy matters, but without the same disproportion between the earthy and animal parts as is found in the two other diseases.

Simon has made known some interesting researches on the urine of pneumonic patients. In two of his observations the urine presented the following particulars, at the commencement of the period of resolution. While, during the inflammatory stage, it had been of a deep colour, very acid and not sedimentary, at this period it became yellow and neutral, and threw down a sediment of crystals, visible to the naked eye, and consisting of the ammoniaco-magnesian phosphates. The fluid contained, in solution, so large a quantity of uric acid that this substance was thrown down by every kind of acid, even by dilute acetic acid. The uric acid was in the state of urate of ammonia. In his work, (*Beiträge zur Chemie und Microscopie*), Simon also gives the sequel of his observations in scarlatina. He remarks, that dropsy follows this disease, without any trace of albumen being exhibited in the urine, while, on the other hand, albuminuria may exist without dropsy. Schönlein and Simon have constantly observed the desquamation of the mucous urinary membrane after scarlatina. First of all, the urine becomes clouded, then it deposits a mucous sediment, composed of a mass of flat cellules of epithelium.

The alkaline reaction of the urine in disease is owing almost always to carbonate of ammonia, produced by the decomposition of urea. Simon has even attempted to show, that in affections of the spinal cord, for example, the increase of carbonate of ammonia corresponds entirely with the diminution of urea. The urine even becomes alkaline in the bladder, if retained there for some time. In general, we find the urine of an alkaline nature in all the functional derangements of the kidneys, (nephritis, external injuries of the kidney, Bright's disease, &c.), and then it contains carbonic acid and the carbonates. In such cases, it is evidently the readily decomposable mucus of the bladder which determines the change of urea into carbonate of ammonia. Alkaline urine, however, is also met with, where there is no functional lesion of the kidneys. Willis, Pelletier, Schönlein, and Simon, have observed the urine become alkaline at the period of convalescence in typhus, after having been acid during the height of the disease. Simon has treated of this in detail. From his observations, and those of Schönlein, it results, that the urine may continue acid up to the 7th, 14th, and sometimes 21st day; then it becomes alkaline. This reaction may last a longer or shorter period—sometimes for two or three weeks. When a precipitate of urate of ammonia is formed in the urine, while still acid; and when the urine becomes acid again, after having been alkaline, the prognosis, according to Schönlein, is favourable. Alkaline urine often, but not always, contains albumen, just as albuminous urine often has an alkaline reaction, and at other times an acid one. Albumen, as is well known, is met with in the urine of persons having all the appearance of health; and Bright's disease is far from being the only one in which the urine presents this change. In many acute diseases, (inflammation of the thoracic organs, rheumatic and intermittent fevers, typhus, scarlatina, variola), the accidental presence of albumen in the urine occurs. It is met with still oftener in acute and chronic diseases of the heart, and in other diseases accompanied with dyspnœa; also in chronic diseases, where nutrition is defective, (as phthisis diabetes, hectic fever.) In these cases, the separation of the albumen is owing to an alteration of the blood, (perhaps a deficiency of the salts), which permits that substance to drain through the renal tissue. In dropsies, the cause of the phenomenon is to be looked for in the œdematous infiltration of the renal tissues, and in the transudation of the serum of the blood. The quantity of albumen is known to be very considerable in that degeneration of the kidney known under the name of Bright's disease. Schönlein has called attention to a peculiar scanty mucous sediment which the urine presents in this disease, and which Simon has found to consist of mucous corpuscles, common epithelium, corpuscles of the blood, and rounded, deep-coloured, granular masses, analogous to the inflammation globules of Gluge. The latter observer describes them as "a sort of utricles, or amorphous matter similar to albumen, coagulated, and arranged in the form of utricles. They had, or appeared to have had an outer covering. They contained an amorphous granular matter, which appeared also to inclose cellules, or mucous corpuscles. Their size varied from 0·0011 to 0·0006 of a Paris inch." Simon seems disposed to consider these utricles as formed by the altered epithelium of the tubes of Bellini.—*L'Expérience*, Dec. 7, 1843.

FORENSIC MEDICINE.

TRIAL AT DERBY FOR RAPE AND ATTEMPTED MURDER—PLEA OF INSANITY.

At Derby, on the 22d December 1843, John Winfield Grocock, aged 17 years, was indicted for violating the person of Eliza Ann Allwood, a child aged 11, and also for attempting to murder her.

The outline of the case may be given in a few sentences. The prisoner, having decoyed the girl away, under pretence of giving her employment in a Derby silk-mill, violated her person, struck her repeatedly on the head with a hammer, and left her for dead. He then gave himself up to justice as a murderer, asked for pen, ink, and paper, and wrote a minute account of the whole affair, with the exception of the rape, which he naturally supposed would diminish his claims to public sympathy, without adding to his pretensions as a monomaniac. His account concludes by saying, "as regards my intention for committing such an act, I was determined to be transported or hung, having at that time no means of obtaining a livelihood, but I cannot properly explain the motive for committing such an action."

The prisoner described to the superintendent of police the spot where the crime had been committed. It was under a tree facing the windows of the mill at Borrowash. The grass was much trampled down; there was a quantity of blood upon it; and the handle and head of a hammer were picked up separately, for Grocock had struck this poor child till the instrument came in two. When taken to the Infirmary, one large and six smaller contused and jagged wounds were found upon her head. She recovered, however, and was one of the witnesses on the trial.

Grocock had possibly speculated on the favour shown of late to monomania, whether real or pretended, and had anticipated sporting in the same play-ground with Oxford and Macnaughten. In prison he acted his part as well as he could. "He was calm and quiet," says Mr Douglas Fox, the surgeon of the jail, "when he did not know that he was watched, but rolled his eyes strangely when he knew that he was observed."

Several witnesses were called for the defence. One proved that his general conversation was very strange,—that he talked very wildly; another that he said, "Mrs Gee, I feel very curious—my head is very hot—I feel as if I should go beside myself." Another, who was an out-patient at the Nottingham Infirmary, saw him there, and was alarmed at the wildness of his conversation and appearance. Lastly, his father proved that the prisoner's uncle had been insane for 18 years, and had been in confinement; and that the prisoner, when 18 months old, had a fall upon a mop-nail, which cut his forehead severely over the eye, and left a scar which is still visible. In short, there was evidence enough to have got the prisoner off had it been backed by any of the medical witnesses. This did not happen; and Grocock was left to answer for his complicated crimes. The jury found him guilty of the fourth count only, which charged the intent to do grievous bodily harm.

The sentence of the court was, that he should be transported for life.—*Med. Gazette*, Jan. 12, 1844.

TRIAL AT DERBY FOR PROCURING ABORTION.

A general practitioner, and one Tomlinson, whose rank is not mentioned, were tried at Derby on the 22d December 1843, for administering medicine to Sarah Hand for the purpose of procuring abortion. In one count it was stated to be savine, in another "a certain noxious drug to the jurors unknown."

Mr Wilmore addressed the jury for the prosecution at considerable length; but as his speech has not been reported, we are left to conjecture the motive which could have urged the surgeon to the commission of such a crime. As for the man Tomlinson, Sarah Hand was with child by him.

No satisfactory proof was given or offered that savine, or, indeed, that any injurious drug had been administered. The woman, Sarah Hand, who had already had a child by Tomlinson, appeared to have been actuated by jealousy at his conduct with another woman, and by anger at his not marrying herself. Besides her *liaison* with Tomlinson, other frailties were laid to her charge, which seem to have thrown additional discredit on her testimony.

Tomlinson asked the surgeon for some medicine for his sister, and received a mixture of aloes, jalap, Epsom salts, and water. Hand took this, or, if her evidence was correct, something stronger, as the symptoms were so violent that her life was in danger. Abortion did not take place.

The evidence of the woman, however, not being believed, the case fell to the ground. The acquittal of the surgeon was most triumphant. The jury, without troubling the learned counsel to call witnesses for the defence, turned round for a minute, and brought in their verdict of acquittal. This was followed by loud and successive plaudits in the court. Tomlinson, too, was acquitted, but not quite so exultingly. The jury deliberated for about ten minutes, and their verdict of "not guilty" was again followed by loud and repeated plaudits; but the foreman, at the same time, observed, "that they thought the prisoner had acted very wrongly, but did not feel satisfied that it was a noxious drug."—*Med. Gazette*, Jan. 12, 1844.

ELECTRICITY IN POISONING BY STRYCHNINE. BY M. DUCLOS.

M. Duclos has instituted a remarkable series of experiments on rabbits, dogs, and guinea-pigs. He poisoned these animals with strychnine and brucine, and then electrified them; and found that, on application of the negative electricity excited by means of an electrical machine, the symptoms of poisoning subsided, and the animals were saved; the positive electricity, on the contrary, increased the muscular contraction produced by the poison, and hastened death.

Animals which had been poisoned with arsenious acid could not only not be saved by electrifying them, but were killed sooner, whether positive or negative electricity was employed.—Buchner's *Rep. für die Pharm.*, vol. xxxii., as quoted in the *Chemist*.

TANNIC ACID IN POISONING BY HEMLOCK. BY M. MEYER.

Hitherto tannic acid, or the decoction of galls, or of any astringent vegetable, has been considered of great service in cases of poisoning by strychnine and brucine.

M. Meyer had recently occasion to observe the great efficacy of tannic acid in a case of poisoning by hemlock. Four children had eaten a large root of the water hemlock, *Cicuta virosa*, L. One child died almost immediately; to the other three, sulphate of zinc was first administered in large doses, to produce vomiting, which was assisted by draughts and frictions to the stomach, after which cold applications to the head, horse radish and mustard plasters were used, clysters of vinegar administered, the cold extremities rubbed with flannel and warmed, upon which a decoction of galls was administered in frequent doses and with the greatest success, for the alarming symptoms gradually disappeared, and the three children were perfectly restored after five days.—Buchner's *Rep. für die Pharm.*, vol. xxxii, 1843, as quoted in the *Chemist*.

[The value of tannic acid as an antidote in poisoning with strychnia and brucia has not yet been satisfactorily established; and though we insert the above, we are far from thinking that a case is made out for it as regards hemlock.]

PART FOURTH.

MEDICAL NEWS.

MECHANISM OF VOMITING.—LETTER FROM DR ANDERSON TO DR MARSHALL HALL.

Dumfries and Galloway Royal Infirmary,
9th February 1844.

DEAR SIR,—In reply to your letter of the 15th ult., addressed to me through the medium of the February Number of the MONTHLY JOURNAL, I beg to offer the following observations:—

In regard to Boisseau's cases of laceration of the diaphragm, in consequence of violent efforts of vomiting, you say, "My view of this event is, that it occurs in the final, actual, full, and violent expiration which uniformly takes place at the close of the act of vomiting. The larynx is opened, the air in the thorax escapes, the contraction of the abdominal muscles proceeds, and all the force of that contraction is applied to the diaphragm, and carried upwards to the uttermost. It is the same force, the same violent expiration, which so beneficially empties the bronchial tubes of their redundant mucus in certain cases of bronchitis, in which emetics are prescribed." Now, what is the chain of events in vomiting? First, a full inspiration; next, the actual effort, during which, if there be no actual discharge of matters from the stomach, there is a scanty and difficult escape of air through the barely opened glottis, giving rise to the peculiar sound accompanying retching, and during *which* also occurs the expulsion of the redundant mucus contained in the bronchial tubes; then follows a "final, actual, full," but by no means, in the proper sense of the term, "violent" expiration; and this is again succeeded by the full inspiration preparatory to the next effort. Far from this final expiration being violent, it is one of relief and freedom from straining; and if, during its persistance, the hand be placed upon the parietes of the abdomen, these will be found comparatively soft and yielding, contrasting strongly with their tense and resisting condition during the vomitive effort. This last fact precludes the idea of the event occurring during the final expiration, from the diaphragm being carried forcibly upwards to its utmost limits, and then ruptured in consequence of the continuance of the same force; and the fact of an actual and full expiration taking place after the scanty escape of air through the glottis during the vomitive effort, is equally subversive of the idea of the rupture of the diaphragm resulting from the above cause during that effort. I therefore still retain my opinion, that your theory is inadequate to explain such cases as the two in question; and, on the other hand, that a simple explanation is found in excessive contraction of the muscular fibres of the diaphragm.

The second paragraph to which you advert, comprises the account of my two experiments, adduced in proof of the diaphragm's contraction in the act of vomiting. You object to the expression "contracted" contained in the relation of the last of these, as involving a statement of the "mode or *rationale*" of the facts. Now, I mention, as the result of the first experiment, that "the diaphragm became tense and rigid, and descended towards the abdomen;" and I afterwards state, that in the second experiment I obtained the same result. It is true, that in the actual detail of the latter, I write down the conclusion to which the facts inevitably led instead of the facts themselves, which, I freely admit, is not in strict accordance with the language of experiment; but I am perfectly willing to abide by the simple narration of the facts themselves. They are, then,—that during each effort of vomiting, in both experiments, "the diaphragm became tense and rigid, and descended towards the abdomen," while there was allowed free egress of air from the lungs through the artificial opening in the trachea. The inference which I deduce from these facts you attempt to destroy by the following explanation:—"At the commencement of each act of vomiting, which is an act of the muscles of expiration, the contraction of the intercostal muscles carries the diaphragm forcibly downwards, part of the parietes of the abdomen yielding somewhat to this forcible pressure. At this moment, it may be found to have 'descended,' and to be 'tense and rigid.'" Now, to enable the intercostal muscle to effect an expiratory act, it is necessary that, at the same moment, at least one of the abdominal muscles—the quadratus lumborum—be in a state of contraction, in order that the twelfth rib may be first pulled downward, and then afford a fixed point towards which the other ribs may be drawn. To follow out your explanation, therefore, it is necessary to suppose that in the effort of vomiting, there is first a partial, and afterwards a universal contraction of the abdominal muscles. Of this, however, we have no evidence. But were I even to admit your premises, I hold that they are quite inadequate to explain the descent of the diaphragm, seeing that there is free egress of air from the lungs, and therefore no force from above to cause that descent. The actual result of such contraction of the intercostals, in these circumstances, would be to draw down the ribs, and at the same time lessen the horizontal diameters of the thorax, and thus tend to cause a puckering together, rather than tension and rigidity of the diaphragm, were that muscle in the loose and inert condition for which you argue. I may add, that in my experiments, the tension and rigidity of the diaphragm continued during the *entire* persistance of each effort of vomiting.

You next observe, "I have only to add, that if the diaphragm does contract during the act of vomiting, it *must*, in exactly an equal degree, *counteract* that process, which is one of expiration, whilst the diaphragm is an organ of inspiration;" and in the concluding part of your letter you say, "I should have been glad if you had noticed the subject of vomiting from the œsophagus, and discussed that of vomiting from the stomach, when this organ exists, (in the case of hernia,) within the cavity of the thorax at greater length." The following statement of my view of the mechanism of vomiting, in so far as the agents exerting pressure upon the stomach are concerned, will, I believe, while it meets the first of these remarks, satisfactorily explain vomiting from the œsophagus, and vomiting from the stomach when this organ is situated above the diaphragm. Immediately preceding the effort of vomiting, then, occurs a full inspiration, in which the diaphragm is brought nearly to a plane; then supervenes the vomitive effort, in which there is not only spasmodic contraction of the abdominal muscles, but a farther contraction of the diaphragm; but this muscle, being immediately met by the viscera propelled upwards against it by the abdominal muscles, can effect but a small degree of farther descent; and, therefore, acting now from its fixed centre, it approximates the ribs, and thus becomes a true muscle of expiration. In this way, as well as by the influence of the abdominal muscles, the organs embraced by the ribs, whether above or below the diaphragm, are compressed; and if there be a way of egress from any one of these organs, its contents are evacuated.

I read with deep concern that part of your letter, which virtually accuses me of misrepresenting your real views as to the share which the diaphragm exercises in the production of the ingurgitation of air into the œsophagus during nausea, and of suppressing parts of the text in order to support that misrepresentation. In justice to myself, I must beg your attention to the whole paragraph in question, which I shall now quote with the punctuation exactly as it occurs. "The larynx being closed preparatorily to the act of vomiting, an attempt at inspiration is made before the effort of expiration. In this attempt, air is drawn into the œsophagus, the larynx being impervious, and it is afterwards probably propelled along that canal into the stomach itself; it is not improbable, too, that in some instances of vomiting, in which the action of the abdominal muscle was subtracted, a similar effort of inspiration has drawn substances from the stomach into the œsophagus[1] which has eventually expelled them by an inverted action. Neither of these phenomena could result from any action of the diaphragm, and much less from contraction of the abdominal muscles; but it is easy, by closing the larynx and attempting to inspire, to draw air into the œsophagus. A similar act, if very forcible, might draw a portion of the contents of the stomach through the cardiac orifice." In the sentence beginning, "In this attempt," &c., there are two leading phenomena adverted to, viz. the traction of *air* into the œsophagus, and the drawing of *substances from the stomach* into that canal,—the clauses, "and it is afterwards probably propelled along that course into the stomach itself," and "which has eventually expelled them by an inverted action," appearing as mere parenthetical remarks in connection respectively with these. When, therefore, in the commencement of the next sentence, you say, "Neither of these phenomena could result from any action of the diaphragm," I at once concluded that the pronoun "these" referred to the phenomena mentioned respectively in the two leading divisions of the preceding sentence, especially as you also state that they are produced by "a *similar* effect of inspiration." This opinion was confirmed when I read the concluding part of the paragraph. You say, "It is easy, by closing the larynx and attempting to inspire, to draw air into the œosophagus," —the former of the phenomena to which I have alluded. "*A similar act*, if very forcible, might draw a portion of the contents of the stomach through the cardiac orifice,"—the latter phenomenon adverted to. One of two conclusions I was thus obliged to adopt,—either that you denied the diaphragm any share in the inspiratory act which produces the ingurgitation of air into the œsophagus during nausea, or that in the paragraph which I have quoted there were two contradictory statements. It was far from my thoughts for a moment to entertain the latter opinion,—I therefore adopted the former. Again, let me for a moment grant that the expression "these phenomena" *evidently* refers, first, to the drawing of substances from the stomach into the œsophagus, and, secondly, to their subsequent expulsion from that canal; you not only assert that "neither of these phenomena could result from any action of the *diaphragm*," but you also add, "and much less from contraction of the *abdominal muscles*." Do you then mean to affirm, that contraction of the abdominal muscles, during closure of the larynx, could not effect the ejection of matter from the œsophagus? Such a statement would surely be in direct contradiction of your own theory of the mechanism of œsophageal vomiting. I am, dear Sir, yours very truly, DAVID ANDERSON.

To MARSHALL HALL, M.D., F.R.SS.L. & E., &c. &c.

OBSTETRIC STATISTICS OF DR METCALF—LETTER FROM MR CRAIG.

High Street, Paisley, Feb. 13, 1844.

SIR,—In the LONDON and EDINBURGH MONTHLY JOURNAL of MEDICAL SCIENCE for January 1844, an abridged form of Dr Metcalf's *Statistics of Midwifery* is laid before your readers. The number of cases of labour is 300, all attended by Dr Metcalf prior to 1839. In looking over the table given, I find that 144 cases of labour, out of the 300, ranged in duration from 13 to 90 hours, viz.,

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[1] I beg to remark, that in my copy of the *Lancet*, there is no comma after the word "œsophagus."

96 continued from 13 to 24 hours; 28 from 25 to 36 hours; and 19 continued from 40 to 90 hours.

We are informed that there were two cases of deformed pelvis—in one of which, however, after a labour of 85 hours, the child was expelled by the natural effects of the mother,—and, in the other case, the head was lessened. Instruments were used only once, and there were seven still-born children. But I regret that nothing is said regarding the state of the mothers, for in such a number of labours so unusually, and in my view so unnecessarily protracted, it would have been very desirable to have known the result to the mothers.

It appears that Dr Metcalf and myself have been attending, and making observations about the same time, on a considerable number of cases of labour. Upwards of 400 successive child-bed cases, all at the full period of utero-gestation, were attended by me prior to 1839. Previously to the period at which I resolved to make observations on the above number of cases of labour, I had formed an opinion that there was an almost total absence of correct information, on the real nature of the state of the expulsive apparatus in those cases of labour in which delivery is so long delayed, as is represented by Dr Metcalf, and many others; and that if the true nature of the obstructing causes to the expulsion of the child were well ascertained, the annoyance to the practitioner, and the protracted and grievous affliction of the women, might in a great measure be obviated by the timely employment of appropriate means. During my attendance on the above number of cases, I had many opportunities of verifying the correctness of these previously formed views. All the cases of obstinacy and difficulty that require active, or other particular treatment, in order to obviate the opposing causes to delivery—the various symptoms, the nature of the obstructing causes, and the remedies applied with their effects in correcting the morbid causes of delay and suffering, were jotted down as soon as convenient after the birth of the child. Proceeding in this way, until the number of cases previously fixed upon were completed, I was led ultimately to the publication of my small work on protracted labours.

From what is stated in regard to Dr Metcalf's experience, it would appear that he is one of those who have little confidence in the use of means for the purpose of shortening the duration of tedious labours; for if even the half measures recommended by our most eminent writers on this subject had been used, the expulsion of the child in so great a number of cases, I think, could not have been so long delayed. On this part of the subject, then, I speak advisedly and confidently, when I say, that there is no morbid condition of any part of the body that may be recognised and remedied with more facility and certainty, than are those various obstructing causes to delivery which occur in the usual forms of protracted labours. The data from which this confident statement is made, are the 400 successive cases of labour, with the treatment which was necessary in many of them, as well as the adaptation of the various means of relief which the varied forms of obstructing causes required. The advantages then of the use of appropriate remedial means in the management of long continued labours cannot be more forcibly exhibited than by contrasting the result of Dr Metcalf's mode of procedure in child-bed cases with that which was pursued by me. The result of Dr Metcalf's attendance on 300 cases, has been already noticed; and I now state that the result of my attendance on upwards of 400 successive cases is, that they all terminated with safety to the mother, within fifteen hours after the commencement of labour, and only two of the cases extended beyond twelve hours. There was only one still-born child. Instruments were not required.

Since 1839, I have pursued the same course in conducting such cases, and uniformly the most obstinate and severe labours have terminated within twelve hours after I was called to the patient. Thus, it would appear, that in such cases, by the use of suitable means, all those obstinate and prolonged labours which extend from 13 to 90 hours, might be limited in duration to 10 or 15 hours after labour had commenced.

It would be foreign to the purpose I had in view in writing this letter, to give a detailed account of the various forms of protracted labours, and the means suited to the relief of the diversified modifications of the opposing causes to delivery: however, in the small work already alluded to, on protracted labours, &c., this information is given.

The value of these observations is enhanced, by the time to which they refer being co-existent.

I appreciate very highly the course pursued by Dr Metcalf and other elevated and independent minds, who boldly and unreservedly give currency to the result of their practical observations. I am, Sir, your most obedient servant,

To Dr CORMACK. JOHN CRAIG.

GRATUITOUS LECTURES.

A London paper has an advertisement, headed as above, announcing that "Lectures on Chemistry will be opened for ladies and gentlemen by a lecturer from the University of Munich, with all the interesting and amusing experiments, to defray which *sixpence* will be charged per person." We do not see how lectures, for which the audience pay sixpence a-head, are to be considered *gratuitous;* but we mention the matter by way of hint to all persons lecturing for honour and glory.

The professor evidently wishes to avoid the reproach of lecturing at sixpence a-head, and therefore professes to lecture gratuitously, while he pockets the sixpences, as he says, "to defray the expenses." The plan is not a bad one, and we strongly recommend the adoption of something of the kind to the lecturing section of the medical profession, some of whom are, we hear, anxious to have a method suggested by which they may be enabled to "defray the expenses."—*Dublin Medical Press*, Feb. 14, 1844.

HYDROPATHIC INNS AND MEDICAL LANDLORDS.

"A water-cure establishment, beautifully situate on a mountain side, adjoining the romantic vale of Grassmere in Westmoreland," is advertised "for the reception of invalids," by an Em Dee, who says he "keeps rowing boats on the lake, and a complete gymnasium for the use of those prohibited the exercise of walking." We recommend this notice to the serious attention of the Faculty of the Wet Sheet in Cork. "An establishment" at Killarney might prove a remunerating speculation, with a brass band and fire-arms to elicit the echoes, for the benefit of persons labouring under nervous depression. A treatise on the medicinal virtues of arbutus berries, well advertised, might "take," and help the establishment.—*Ibid.*

NOTICES TO CORRESPONDENTS.

In our next: DRS LAWRIE and KING on Injuries of the Head; DR MILLER'S Case of Pregnancy complicated with Cancer; DR CHISHOLM'S Surgical Cases; MR WILLIS' Remarks on Sibbens; and MR JOHN STEWART'S Contribution to the Statistics of Obstetrics, with Notes of Cases.

SEVERAL OTHER PAPERS have been received, regarding which we will communicate with the authors.

THE EPIDEMIC FEVER.—Abstracts of some of the papers which have appeared on this subject are deferred. We still intend, however, to refer in some way or another to every thing of the slightest value which has appeared or may yet come forth on this subject. In doing so, we will endeavour not to weary our readers.

NEW BOOKS.—In future, we intend to publish occasional lists of *New Foreign Works.* The "BOOKS RECEIVED" forms a tolerably complete bibliographical record of *British Medical Literature*, and includes also many *French publications.* It is our almost invariable rule never to review any work of which a copy has not been sent to us by the author or publisher.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

Article I.—*A Contribution to the Statistics of Obstetrics, with Notes of Cases.* *By* John Stewart, Esq., *Maryhill, near Glasgow.*

(Read before the Glasgow Medical Society, on the 6th of February 1844.*)*

In the following essay, I propose to give a contribution to the statistics of obstetrics, such as my short and limited practice affords. I do not expect to enlighten you with any thing that is new, but perhaps I may enable you still further to verify the results of your own observations.

During the period which has elapsed since I commenced practice in this neighbourhood, I have attended 730 cases of labour, producing 734 children, 4 being twin births, the sexes of whom bore a very near proportion to each other.

147 of these were primiparæ, being in the proportion of 1 in 5—the age of the patients varying from eighteen to twenty-six years. One case occurred where the patient's age was thirty-five years.

Of the above number of deliveries,—

The child's head presented in the natural position, in	712
Deviations from the natural position of the head occurred in	11
The face presented, in	1
The breech, in	4
The feet, in	3
The umbilicus, in	1
The hands, in	1
The placenta, in	1
Total number of deliveries,	734

Premature labour occurred in 21 cases, as follows:—5 between the fourth and fifth month, 7 in the sixth month, and 9 in the eighth month of pregnancy.

Eight of these premature births were brought on in consequence of the mother being affected with venereal disease. One of the children was discharged piecemeal, in a putrescent state.

Thirty-four children were still-born at the full period of pregnancy. One of these wanted the whole anterior part of the skull, the brain being only covered by the membranes.

One child was born with congenital hydrocephalus, and lived for some weeks after birth. One was born completely blind; two were born with club feet; two with single hare lip; and two with double hare lip, combined with cleft palate.

The forceps was required in 9 cases, under the following circumstances:—2 were cases of breech presentation; 1 of impacted head; and in 6 the head presented naturally.

Perforation was required in 1; turning in 1; in twins, a hand of each child presented at the os uteri; retention of the placenta, requiring extraction, occurred in 12 cases; hemorrhage from retained placenta, occurred in 2; accidental hemorrhage previous to delivery, occurred in 3; uterine hemorrhage after delivery, occurred in 4; hysterical convulsions after delivery, occurred in 1.

The total number of non-fatal casualties to women was 22. Paralysis after delivery occurred in 1 case, which proved fatal.[1]

From the foregoing details it will be seen, that the proportion of preternatural to natural presentations is as 1 in 33—a result nearly corresponding with that stated by other observers; and that by far the greater proportion of the preternatural presentations are of that kind nearest approaching to the natural presentations.

Of the 712 natural presentations, 83 were of a lingering character.

To the consideration of some of the causes producing tedious labour I would now advert. There is no description of labour which presents greater varieties to the practitioner. It is not my intention to take up your time with the consideration of all the causes which have been assigned for these, but I propose to confine myself to two of them which I have most frequently met, and which, I believe, are of more frequent occurrence than many practitioners are aware of. And the first of these is that irregular form of labour, where the patient suffers pain to a severe extent, without labour progressing in the same ratio; or, in other words, "where deficient or deranged uterine action is the cause of the difficulties and delays experienced in parturition."

Almost all writers on obstetrics are agreed that there is a state of irregular contraction of the uterus—some call it irritable action of the uterus—which, when it comes on, impedes the progress of labour in some way or other; but there is none of them with whom

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[1] In this case the paralysis did not come on till the 11th day after delivery. For three days previous, the patient was out of bed superintending her household affairs.

I am acquainted who has given any proper explanation of the mode of action which the uterus assumes, when this very painful and very tedious form of labour sets in.

Dr James Wilson, in an admirable practical essay read before this Society some years ago, and since published in the *Glasgow Medical Journal* (for May 1830, page 117) was the first, I believe, who called attention to this important subject; and although his observations have been before the profession for the last thirteen years, yet strange to say, no modern author has taken that notice of them which their importance merits. In that paper Dr Wilson has shown, conclusively to my mind at least, that the cause of the delays which so frequently occur in the process of labour, is owing to the irregular contraction of the uterus. Assuming, with him, that this organ is made up of a double set of muscular fibres, one set acting transversely, or in a circular direction, and the other set acting longitudinally in the process of labour, it must be evident to every one that parturition must be much hindered by either set of fibres acting separately.

Dr Wilson's explanation of the mode of action of the uterus in the process of labour, is so distinct and accurate, that I cannot refrain from quoting it in this place: "The tendency of the transverse action, when alone or predominant, is merely to narrow and elongate the uterine cavity, whereas, the tendency of the longitudinal action is to shorten the cavity, by making the fundus and os uteri approximate, and thus to expel whatever is contained in it. This expulsive process however will be best effected, not when the longitudinal fibres act alone, but when they act powerfully, having at the same time the tranverse action in a subordinate degree; again, if the transverse fibres act alone, expulsion of the uterine contents never can take place. Transverse action may be general or partial, producing corresponding effects: if general, and the liquor amnii be discharged, the body of the child will be grasped at all points, like a limb in a tight boot; and no ordinary expulsive uterine efforts, or extracting force used by instruments, will be capable of effecting delivery under these circumstances."

My attention was early drawn to the truth of the latter part of this description, by the following case:—Mrs Hart, aged 30, was taken in labour of her fourth child on the evening of 29th December 1834. At the time I was sent for, about seven o'clock P. M., labour appeared to be progressing rapidly, the pains were severe, and of an expulsive character. On examining the state of the os uteri during the interval of pain, I found it dilated to a considerable extent, and the presentation natural,—the pelvis was well formed, and as the woman expressed herself, "all things were right, and she was sure that she would be well directly." On inquiry, I found that all her former labours were got speedily over. After a little, a severe pain came on, the liquor amnii escaped in a gush, the head of the child was ascertained to have descended a little, having at this time just entered within the brim of the pelvis—the os uteri was dilated to its full extent—all at once the pains began to alter in character, instead of being expulsive, they became of that description which I have often heard patients designate " as tearing pains without any force." Matters remained in this state for nearly six hours, the woman, during all the time, undergoing the most severe suffering, the head of the child making no progress, nor even adapting itself to the state of the parts. I then had her bled freely, which produced syncope, and administered a draught containing forty drops of tincture of opium, in the expectation that the deranged uterine action would by these means be overcome, and that a return to the natural state of things would speedily come round. In this I was disappointed; the pains continued with unmitigated severity, making no impression whatever on the head of the child. The hardness and prominence of the uterine tumour, during the pains, as well as the condition of the patient otherwise, excited in my mind apprehensions as to the safety of the uterus, and accordingly I suggested the employment of the forceps; this the friends were averse to without a consultation. My friend Mr Millar was accordingly called in, when we agreed that delivery should be attempted with as little delay as possible. The forceps were well and easily applied, but without being successful in delivering the patient. Having made as many attempts with them as we thought safe or advisable, we agreed that further trials should be made to mitigate the uterine action, by means of anodynes, administered both by the mouth and by enema; in these forms she had eighty drops of laudanum, which at once quieted the pains. We then attempted the application of the forceps again, and succeeded, during the interval of pain, in bringing the child's head beyond the os externum, when to our surprise, the same opposing force appeared to be again called into play,—the pains returned as before, and the further extraction of the child was delayed for upwards of an hour. During this interval, at Mr Millar's suggestion, a dose of the ergot of rye was administered, but with no other effect than that of exciting the pains to a most fearful extent: at length, by occasional traction, the body was expelled. The child was dead; on examination, the head was found to be well formed and sound; the body *appeared as if it had been tightly grasped round the shoulders and back and around the pelvis.*

Dr Wilson, in the essay already quoted, adduces a case where the uterus was ruptured, and where every attempt at delivery by the forceps proved abortive, even when the patient was in a moribund state, and mentions, that after death the Cæsarian section was performed, when the uterus was found firmly contracted round the body of the child, and completely adapting itself to the inequalities of the child's surface, " thus embracing it so powerfully as to form the only obstacle to the delivery."

No doubt exists in my mind, that the preceding case was one of this description, and that had the delivery not been accomplished at the time it was, a similar result might have been anticipated.

Almost all accoucheurs are agreed as to the utility of blood-letting in cases of tedious labour. Dr Gooch speaks highly of it, and more particularly in that form of protracted labour produced by irregular action of the uterus. With the exception of the case just narrated, it has proved in my hands a powerful agent in the treatment of the cases under review; in proof of which I could adduce many instances, but shall content myself with the following. Mrs A., aged 35, was taken in labour of her seventh child, about four o'clock P. M.: her former labours were expeditiously got over, and in the expectation that this would turn out as the others had done, I was early sent for. On my arrival, the pains were ascertained to be regular, the os uteri was dilated to the size of a crown piece, and the presentation was natural. I left her to visit a patient in the immediate neighbourhood, but had scarcely got outside of the door when I was hurriedly called back: a severe pain had come, and the liquor amnii was suddenly discharged, and the patient was in momentary expectation of being delivered, in which we were disappointed. On examination, the os uteri was found quite dilated, but high up in the pelvis. No other progress had been made, although the pains were very severe. Matters continued in this state till two A. M. The uterine tumour assuming an unusual prominence as well as hardness, the patient compared her pains to "a tearing of her inwards in pieces," and declared "that unless something was speedily done for her relief she would burst." I at this time had her placed in the erect position, and opened a vein in the arm, which bled freely; syncope ensued, from which she had no sooner recovered, than all at once the pains assumed the expulsive character, and in less than ten minutes from the binding up of the arm, the child was expelled alive and healthy. As in the former case, *around the shoulders there was a mark as if the body had been "tightly grasped"* by the uterus. The head was quite well formed, and was not even deformed by corrugation of the integuments.

In every case of this description which has come under my observation, the liquor amnii has escaped in the early stage of labour, either by a sudden contractile effort of the uterus, or the membranes have given way unobserved, and the liquor amnii has been discharged gradually: in both cases this has almost uniformly been followed by the same result, viz., the retardation of the process of labour.

There is another cause of tedious labour which I believe to be of more frequent occurrence than is generally admitted. Dr Gooch is the only author, that I am aware of, who describes this affection. He says,—"There is another state of the os uteri which renders its dilatation tedious: instead of being preternaturally hard, it is soft, flabby, and œdematous. This state is generally induced by the early rupture of the membranes, owing to which the cervical portion of the uterus is compressed between the head of the child and the pubes; and the return of the fluids being obstructed, the os uteri becomes thickened, and its dilatation is in consequence extremely slow." It was not till after having read the observations of Gooch on this subject, that I looked on this occurrence as other than part of the natural process of labour, and consequently never thought of attempting to overcome it; but subsequently, I have on every occasion where it presented, endeavoured to get rid of it without delay; as by permitting the continued pressure to exist for any length of time, serious consequences may follow, such as inflammation of the cervix.

In the following case, the practice recommended by Gooch was highly successful. I was asked to visit a woman, (attended by a midwife,) who was represented to have been in labour during the whole night. On examination, I found the anterior lip of the os uteri still covering part of the head of the child, while the posterior was completely dilated; in which condition I was told it had been during the greater part of the night. The woman was undergoing the most severe suffering. The parts were much swollen, and painful to the touch; and I certainly did not anticipate much benefit from my interference. Previous to a pain coming on, I introduced my two fingers under the edge of the os uteri, and when the pain came on, gently raised them. By continuing this plan during the occurrence of three pains, I was delighted to find that the head of the child had got completely disengaged from the uterine cavity; and the remaining part of the process was speedily accomplished. This patient suffered a good deal for some time from pain of the os uteri, accompanied with purulent discharge, brought on, I have no doubt, by the continued pressure of the uterus between the head of the child and pubes.

I might, were it necessary, adduce more cases of a similar description, wherein the same treatment was most successful. It is, however, to be borne in mind, that there are conditions of the os uteri wherein this plan of treatment would not only be highly injudicious, but dangerous: and " That it is only in the thick, spongy, and œdematous states, that this kind of artificial dilatation can be of service."

MARYHILL, Jan. 15, 1844.

ARTICLE II.—*Case of Pregnancy complicated with Cancer of the Uterus.* *By* JAMES MILLER, Jun., M.D., *Hamilton.*

About six weeks ago, I was called to attend in child-bed, Mrs Baker, aged 37, of a spare habit and sallow complexion, the mother of seven children, and found that she was suffering from dull aching pain in the lumbar region, and that she had a considerable discharge from the vagina, having a dark appearance, and fœtid smell. On examination per vaginam, I found the os uteri dilated to the extent of a sixpence, and affected in its entire circumference, but especially on its posterior aspect, with deep ragged ulcers; and the walls of the uterus, as far as the finger could reach, felt thickened and indurated. I learned that she had laboured under acute lancinating pain in the lumbar and hypogastric regions, which was aggravated during the night, for the last six months; and that she had had a leucorrhœal discharge for many years. The woman thought herself at the full period of pregnancy; but, considering that her present symptoms arose rather from the malignant disease with which the pregnancy was complicated, than from labour, I left her after prescribing some laxative and anodyne medicine. Shortly afterwards, Drs Wharrie and Thomson visited the patient, and concurred in opinion, both as to the absence of immediate labour, and the existence of malignant disease of the uterus.

I heard no more of the woman till the morning of the 20th Nov., when I was again requested to visit her, and found her complaining of constant acute pains in the back and belly, which she described as similar to those of labour; but examination per vaginam did not satisfy either my father, who was present, or myself, that the pains possessed the character peculiar to those of labour. The patient was, however, positive as to their nature, and she being the mother of seven children, I was rather inclined to agree with her. The ulceration around the os uteri had progressed very rapidly since my first visit, so much so, that considerable difficulty was experienced in detecting the os. The finger, instead of entering the lips of the uterus, passed into a deep sulcus in the posterior part of the substance of the cervix, where the disease appeared to be chiefly located; large ulcerated portions were adhering only by small pedicles, and there was considerable sanious discharge. The pulse was good; the tongue clean; the skin cool; the bowels were open; the appetite was indifferent. I carefully examined the abdomen with the stethoscope, but was unable to detect either the pulsation of the fœtal heart, or the *soufflet* of the cord.

From the complicated and dangerous nature of the case, I requested the presence of some of my professional brethren in the town. Dr Thomson and my father saw her in the evening, and found her making little or no complaint, and inclined to sleep. It was mentioned that the pains had been pretty severe during the day, but had become subsequently only occasional. Such being the state of matters, it was considered advisable to order an opiate enema, and to defer any interference till next morning. At our next meeting, she was found in much the same state as on the preceding night; she had felt no pain after the administration of the enema. In consequence of the absence of every symptom indicating labour, it was agreed to adjourn till more urgent symptoms came on; as we conceived it inadvisable to use any artificial means to deliver her, so long as nature did not appear to make any effort to do so.

At my visit next day, I found that she had passed an uncomfortable night. The discharge from the vagina had increased, and was very fœtid. She complained of a dull pain in the right groin. I ordered her to take a saline aperient as the bowels were confined; and to have the belly frequently fomented. On the 23d, (next day) she complained of most acute pain over the whole belly, aggravated by the slightest pressure. The pulse was 140; and the expression was that of much exhaustion. Professor Simpson of Edinburgh, being in the neighbourhood, was requested by Dr Thomson to visit the woman. The opinion which he gave was, that no calculation should be made with reference to the safety of the mother, as he was persuaded that her death, in a very short time, was inevitable; but that all operative procedure should be directed towards the preservation of the life of the child; and for that purpose he recommended that incisions should be made into the os uteri, and the delivery effected by the long forceps. To this proposal both the woman and her friends objected; and consequently we had to leave matters just as they had been.

Next day, I found her suffering from a severe rigor, which had commenced half an hour before my arrival. The pulse was 60, hard and small; the tongue was dry in the centre; the bowels were loose; and she complained of intense abdominal pain. She was ordered hot drinks, and fomentations to the belly.

From this time the symptoms of sinking continued, and she died on the morning of the 27th.

Sectio Cadaveris.—12 hours after death. The uterus was covered with a thick coating of coagulated lymph, which glued the peritoneum to its surface. About fourteen ounces of dark-coloured serum were found in the peritoneal cavity. In order to ascertain the condition of the uterus, the organ was removed, and a longitudinal incision was made in front, from the vagina to the fundus. The cervix was found involved in its entire extent, except a small point anteriorly, in deep ragged ulceration; and the surrounding parietes, for fully an inch and a half, were much thickened and indurated. On the left side, the induration extended as far as the broad ligament, and presented itself in the form of a circular tumour, which, on being bisected, displayed the usual radiated appearance of carcinoma.

Softening had commenced in the centre, as matter of the consistence and colour of cream exuded when the incision was made into it. Both ovaries were altered in structure, having a soft caseous consistence, and breaking down easily under the finger. The left ovary was nearly twice as large as the right, which was about the normal size.

The fœtus was of the ordinary size, and denuded of its membranes. From the appearance of putrefaction which it presented, life seemed to have been extinct for many days.

The history of the case, and post-mortem appearances, place the nature of the disease under which the woman laboured, and from which she died, beyond doubt. The almost constant lancinating pain, bloody fœtid discharge, deep ulceration, and indurated knotty structure of the parts, fully point it out as a case of carcinomatous degeneration of the os uteri. The rapidity with which the disease was developed is remarkable. The woman stated that she was in the enjoyment of perfect health, when her last conception took place, and that she remained free from all complaint for three months thereafter. At the end of this time, while engaged in out-door work, she got cold and wet, was seized with deep-seated pain in the lower part of tho belly, and soon afterwards perceived a thin brownish discharge, which never afterwards left her. I should suspect, however, that some alteration of structure had begun previous to this time, but had remained in a quiescent state, till roused by the increased action which the gravid uterus assumed during pregnancy.

From the appearance which the child presented, we were unanimous in our opinion, that it must have died previous to the time I was last called to attend the mother; so that any operative interference would have been productive of no benefit, but on the contrary, would have probably hastened on the case to a more speedily fatal termination.

From a review of the whole circumstances, I should humbly submit that the treatment to be adopted in a similar case, with the hope of prolonging the life of the patient, would be to induce premature labour as soon as the pregnancy, complicated with scirrhus of the os uteri, could be detected. The fœtus would be more easily extracted, the os uteri would admit of greater dilatation, the uterus itself would contract more effectually, and particularly the strength of the mother would enable her much better to bear the operation, than if she were allowed to go on to the full period of gestation, when the full-sized child, the disorganised condition of the uterus, and her debilitated state would exclude any reasonable hope of a favourable termination.

HAMILTON, Dec. 6, 1843.

ARTICLE III.—*Remarks on Sibbens.* *By* D. WILLS, Esq., *Surgeon, Cumnock, Ayrshire.*

It is no part of my present purpose to enter into any historical account of sibbens. Those who may feel curiosity on that subject, I refer to an essay of great ability and research, in the April Number of the *Edinburgh Journal of Medical Science*, for 1826, by Dr Hibbert, where he attempts to prove that the sibbens of Scotland and the West Indian yaws are identical, and under the joint term of framboesia ranks them as a disease of the remotest antiquity. He also attempts to establish, and seemingly with greater success, that the morbus Gallicus, or French pox of the fifteenth century, was not lues venerea, but framboesia; and not only do all the descriptions of the disease, which at that period struck a general panic over Europe, support his opinion, but the various modes by which it was communicated are those assigned at the present day, not to lues, but to framboesia. As a remarkable confirmation of his opinion, the first alarm began from the years 1483 to 1493, yet none of the medical writers of that period, (and they seem to have been many and minute in their descriptions), make the slightest allusion to bubo until 1533, a period of 50 years! Supposing the complaint to have been lues, the lechery of the age must have been great to present such a formidable phalanx of disease, as to induce the parliament of Paris, in the year 1496, to prohibit all those affected from conversing with the rest of the world, under pain of death; and James IV. of Scotland, in the following year, to banish them to the island of Inch, or have them burnt on the "cheike with the marking irne, that they may be kennit in tyme to cum." Dr Adams also, in his valuable work on morbid poisons, gives sibbens a seniority to syphilis in Europe, and thinks them entitled to rank as distinct diseases.

Mr Hill of Dumfries again, in the year 1769, maintained that the sibbens of Dumfriesshire and Galloway were nothing but a mild form of the venereal, and about the same time Dr Freer supported a like opinion in an inaugural dissertation, where he throws out a fanciful theory regarding the possibility of lues being, like itch, the product of certain specific animalculæ. Between these he supposes a flirtation to have arisen, and the result to be a cross mongrel breed of sibbenitic animalculæ. Dr Mason Good has rather supposed sibbens to be a cross production between lues and yaws. "Sibbens," says this author, "is a variety of lues, rendered hybrid by passing through a constitution already contaminated with yaws."

When Dr Gilchrist first called the attention of the profession to sibbens, by an essay in the *Edinburgh Collection of Medical Essays and Observations*, the disease would seem to have retained more the character of the French pox of the fifteenth century, and of the West Indian yaws, than it does at the present day.

This change is, no doubt, mainly to be attributed to the improved habits of the lower orders. But I must hasten to my more immediate object, namely, to point out the striking similarity, if not identity, that subsists between this disease, and that form of the venereal, called by some authors the fungoid venereal ulcer.

Mr Henry James Johnson, in the April Number of the *Medico-Chirurgical Review* for 1834, in giving an account of this fungoid venereal sore, under the name of venereal condyloma, has presented so minute and faithful a description of sibbens, as it at present exists in this part of Scotland, as almost to make me doubt if that gentleman had not his model from Ayrshire, with this difference, that what he calls a secondary symptom is our primary. This is easily accounted for. Mr Johnson has been in the habit of seeing the disease in the form it assumes when *got by coition;* we again commonly meet with it as *caught by contact of the lips*, or through the medium of tobacco pipes, &c. Sibbens, however, are frequently communicated by coition; and then the disease has all the characters of venereal condyloma.

In order that those more conversant with venereal condyloma may have an opportunity of judging how far these two affections correspond, I will now attempt to give a description of sibbens, as they at present appear in Ayrshire, Galloway, and Dumfriesshire, drawn from personal observation alone.

Sibbens do not originate in the form of a pustule, as most writers on the subject would have it, but in that of a tubercle or condyloma. This error, however, is the more excusable, from the fact, that when the condyloma begins to ulcerate, the delicate cuticle may often be seen vesicated, or raised, and partly lying loose, round the circumference of the tubercle.

I have not been able to divide sibbens into the simple and ulcerated forms. The tubercles do not rise simultaneously, but in succession, and may be seen, both in a simple and ulcerated state, in the same subject. No doubt, in good constitutions, and those of very cleanly habits, the tendency to ulcerate is less than in those who are the reverse; but I look on the distinction as chiefly one of stage. They ulcerate much earlier on some parts than others. On the tonsils and palate, where they usually make their first appearance, they ulcerate early, but can rarely be seen distinctly. In their other haunts—the tongue, cheeks, angles of the mouth, anus, groins, and genital organs,—though often clustered, they seldom fully coalesce, and have less tendency to ulcerate.

A sibben condyloma may vary in size from that of a silver penny to that of a sixpence—is either circular or oblong, and raised above the surface, from the thickness of a sixpence to that of a penny-piece—is often as high above the surrounding skin, while in its simple form, as it ever is after, showing the impropriety of the term fungating ulcer. It varies in appearance, as in site. In its simple or unulcerated state, when situate on the dorsum and back part of the tongue, it has the appearance of a common wart, and is but little altered in colour from the parts around,—about the angles of the mouth, and round the anus, that of a wart also, and whiter than the surrounding parts. The resemblance to a wart would be stronger, could we suppose that excrescence as having a little more vitality, and a reddish tint. In the groins and arm-pits (very rare) it is deep red and glossy, and it is here, after the delicate cuticle has peeled off, that they chiefly assume somewhat the look of a raspberry in miniature, from whence the disease takes its name. The condylomata, in what I am inclined to consider their more advanced or ulcerated stage, when situated on the dorsum of the tongue, are surrounded with little glossy red areolæ, from the natural coating around them being removed, and when studded over with them, give that organ an oddly mottled look, and it may be that a deep fissure runs down its centre, or the whole coating may have peeled off, giving the sound parts the glossy beef-steak appearance. At the commissures of the lips, and round the anus, it would be difficult to say when, or if, strictly speaking, they can ever be said to ulcerate, their appearance remaining but little changed throughout. Indeed, they may be said to ulcerate only on the tonsils, tongue, and inside of the labia pudendi, and merely to vesicate elsewhere. In front of the scrotum, or on the pubes, the ulcerated tubercle assumes the form of a crust or scab: When met with on the scalp there is a crust also; and no doubt, were they to appear over the body generally, and thereby be exposed to evaporation, this would be their usual form. Their appearance on the female parts of generation is so accurately described by Mr Johnson, that I would only be copying that gentleman's words in attempting a description; but I may take this opportunity of stating that sibbens caught by coition are not always accompanied with gonorrhœa, and are oftener without than with that discharge, particularly in males.

Sibbens, at the end of a month from their commencement, (and we are but rarely consulted so early) are, in ordinary cases, confined to one or both tonsils: these are seemingly in a state of superficial ulceration, and covered with a sort of thin whitish slough. To those who wish to become acquainted with the disease, I would say, mark this so-called slough or hazy whitish appearance: it attends the disease throughout, and by it alone the experienced eye can at once make a sure diagnosis. In all other sore throats, where a slough is formed, or lymph thrown out, the white has a dense appearance, and *well-defined border;* but here it is thinner, and *blended or shaded off*, till lost in the surrounding inflammation. The termination, again, of the inflammation, in the two cases, is reversed: in sibbens it terminates up on the palate, in an abrupt edge; whereas, in common sore throats, it is in general insensibly lost. With this state of the tonsils, there is invariably enlargement of some of the glands under the lower jaw, and these two symptoms constitute the disease for the first four, five, or six weeks, the patient merely complaining of slight soreness, when in the act of swallowing any thing hard. Soon after this period, the condylomata make their appearance on other parts of the mouth, and by the end of six or eight weeks begin to rise up round the anus.

Between the second and third month the disease is at maturity, and presents the following characters:—

When the parts about the glottis have become implicated, the patient is hoarse—this he may or may not be. We look into his throat—the tonsils and edge of the loose palate have a granular appearance, and are as if thinly whitewashed. The palate and uvula have a thickened and contracted look—do not rise and fall with their usual freedom, and up from them there is a blush of inflammation, ascending even as far as the roof of the mouth, there terminating in a well-defined border. At or immediately within each commissure of the lips is a cluster of flat, warty, excrescences; a few similar ones, it may be, exist on the back part of the tongue, or round its edge, or inside the cheeks; and invariably, at this stage, a bunch of them is found round the anus, attended with a red blush, extending an inch up on the nates.

Such are the symptoms that attend an ordinary case of this disease; but cases do occasionally occur of a more virulent character at the outset, which give rise to all the pain and difficulty in deglutition experienced in ordinary sore throat. We also occasionally meet with a rash resembling measles or roseola, which, from its early appearance, cannot be ranked properly as a secondary symptom. The disease sometimes, though rarely, attacks the toes also.

I am aware that even in the ordinary form of sibbens, that is in those cases where the virus has been introduced into the system by the mouth, the condylomata often appear on the perinæum, groins, and genital organs by simple extension, but in all cases where they are first met with on these parts, the disease has been caught by coition. When caught by coition, the inguinal glands become early affected; but have no tendency to suppurate here or any where else. The tonsils in this form seldom become affected in less than six weeks, and sometimes never during the whole course of the disease. Without giving a detailed account of the symptoms, I will merely give a short history of a single case of the very worst kind, which, with its branching, will include all the phases of the affection I have ever seen.

A respectable farmer's son came to me with symptoms of clap, such as running, redness of the lips of the urethra, &c., but with little or no scalding in voiding urine. He soon after got slight gonorrhœal ophthalmia and sibbens. Shortly after him a servant lad from the same quarter applied; he had yaws, as the disease is commonly called on the tonsils, gonorrhœa without scalding, condylomata on the scrotum, and a sore at the orifice of the urethra having the look of chancre, which, on healing, produced stricture, and obliged him occasionally to use a bougie for a long period afterwards. I had made inquiry at this lad, and was not surprised at a dirty female servant from the same house handing me a note from her mistress, requesting me to examine the bearer, as she had become so loathsome that the other maids had refused to sleep with her. And little wonder; from beyond the anus to above the pubes, and for three or four inches down the thighs, she was scalded and studded over with these ulcerated condylomata. Between her toes were what had the look of deep white sloughs, but were in reality only a sort of watery growths as distinctly seen where they emerged from between the toes. This woman married, and had her first child about two years after I had attended her. The child, some time after its birth, began to whine and cry incessantly, became hoarse, the mouth and fauces got fiery red, as did the inside of the alæ nasi, and out from them emerged a kind of eczema that gradually extended itself over the face, head, and body, where it met with its fellow that had emerged from the anus, and ultimately completed the child's destruction. Her second child narrowly escaped the same fate. This woman at first denied ever having had any sore about her from the time I had attended her, but at last admitted her having had two or three *boils*, and showed me a sore between the right mamma and arm pit, about the size of a shilling, of a circular shape, with livid and undermined edges. This is almost the only sibbenitic ulcer I ever met with. I might have suspected this case as having been mixed up with the true venereal, but for the fact of having repeatedly met with cases similar in all its branching, only milder in degree, and wanting the ulcer. Moreover, such a thing as lues among our moorland community is exceedingly rare.

The secondary symptoms of sibbens, with the one exception already mentioned, are, so far as my observation goes, wholly confined to the skin, and are of a trifling kind. The pityriasis-like stains are the most common. These appear on any part of the body, the breasts and arms being the most easily accessible parts, have been to me the most common. They vary in size; their colour may be red, reddish brown, yellow, or slightly leaden; they are at times slightly scaly. Small patches of psoriasis are also occasionally met with; indeed, I think the former sometimes runs into the latter by becoming slightly elevated, reddish, and desquamating. In a very few instances only, and not for many years, have I seen any thing like ecthyma, and can only recollect that some of the crusts were broad as a sixpence, and very few in number, a proof that the disease is becoming milder in its character. We often hear of the constitution being contaminated by the disease as evinced by destruction of the palate, bones of the nose, sibbenitic ulcers, &c.; and I know a few individuals here with permanently impaired voices who are said to have had sibbens in their youth; but if such cases ever do occur from the disease itself, they must now be rare indeed, since after practising in a district of country where yaws are very common, and treating many hundreds of cases, extending over a series of twenty-seven years, I have met with nothing beyond what is already mentioned.

In regard to the period of incubation, or the length of time that may intervene between exposure and the first symptoms of the dis-case, I have never been able to arrive at any satisfactory conclusion. The first symptoms are in themselves so trifling as often to be overlooked, and early application is never made; nor can patients often tell when or how they became contaminated. It is said by some writers to be from seven to ten weeks; and the fact of one after another in a family being often attacked for months after the most rigid precautions had been put in force, favours this long period. In an unfortunate case, where, in attempting to reduce simply enlarged tonsils, the disease (I had reason to believe) was communicated by the quill containing the caustic, the complaint was perceptible within the fortnight. But allowing there had been no taint previous to the application of the caustic, the case is not exactly in point, being one of inoculation.

It is said that sibbens, like the yaws of the West Indies, undergo a natural cure, after running a course of from six to twelve months. When they might undergo a natural cure I cannot tell; but of this I feel certain, that they have a strong tendency to run a course in defiance of treatment. A case from three to six months' standing, is easily cured in a fortnight, and in all probability permanently so; not so a case of so many weeks. We cure them, 'tis true, but two to one the case is again in our hands in six weeks, and this it may be again and again.

This is so true, that we never can warrant a house *permanently* clean in less than a year, and sometimes not for a much longer period. Some may say we repel the disease by injudicious topical treatment, and thus keep it pent up, as it were, in the system, for a longer period than would otherwise be required for it to run a natural course; but I have seen a case in no way interfered with by treatment remaining at the end of two years in all its primitive perfection and simplicity. On the other hand, it might be said, we do not continue treatment long enough; but then how does it happen to be successful in the one case, and not in the other?

This strong tendency in the virus, when once introduced into the system, to run a course, coupled with the fact that I have never met with sibbens twice in the same subject, has impressed me with the belief, that, like West Indian yaws, a first attack affords indemnity from a second. Those writers on the disease who have had the best opportunity of judging seem silent on this point, and the vulgar opinion, prevalent until lately, is lost, that one attack *lasts a man's lifetime.*

"Sibbens," says Dr Hibbert, "are the engendered product of rank uncleanliness;" but they are only fed and fostered by unwholesome food and filth: this is all.. The disease is propagated by contagion, and contact too of no common kind, being no more caught by sleeping in the same bed, than is the venereal. This may not have been the case at an earlier period, when the tubercles would seem to have spread over the body generally. At the present day, we act under the belief, that the poison can only take effect where applied to a delicate membrane, such as that which lines the lips, mouth, and genital organs, or to an abraded surface. Its application may be either direct, or indirect through the medium of tobacco pipes, glasses, spoons, &c. The most common mode by which the disease is communicated, is direct by contact of the lips in billing and cooing; next in point of frequency, is smoking from the same pipe; it is also, as has been stated, occasionally caught by coition.

Whether sibbens, the venereal, and the yaws of the West Indies originally sprung from a common stock, forms an interesting subject for inquiry. It is perfectly plain, however, that each now, at least, is equally, nay, better entitled to rank as a distinct disease than variola, varicella, and the other minor pox. Sibbens are distinguished from the venereal, by the greater number of their sores, by their elevated character, and by the ulceration in the former being much more superficial than in the latter. The first rarely contaminates the constitution, the last often. Between sibbens and the venereal condyloma there does not appear any difference; and I will be much astonished indeed, if, on farther inquiry, the latter is not found to be often communicated by the mouth. Whether sibbens may have wandered from our mountains to the cities, or venereal condyloma from towns to us, is not for me to decide.

Sibbens, and the yaws of the West Indies, retain some very important characters in common, such as the whitish ulceration of the tonsils, the fungoid character of the sores, a first attack probably giving immunity from a second, and their appearing to run a somewhat similar course in point of time. Yet in some respects they differ: sibbens from first to last a trifling disease are never ushered in by any constitutional symptoms, never induce a cachectic state of constitution, and the sores are confined to the neighbourhood of the mouth and great outlets. Regarding West Indian yaws, the reverse of all this is true.

However wrong Dr Hibbert may be in regard to sibbens being the offspring of uncleanliness alone, I cannot do better than copy his means of prevention;—" The importance of cleanliness," says he, " admits of a ready explanation; the poison upon which this affection depends is more or less deleterious, according to the various degrees of concentration which it undergoes; yet even in its most concentrated state its action is so gradual and so slow, that if common acts of ablution were daily practised, long before it could have time to act, it would stand every chance of being either rendered comparatively inert, or even of being totally removed from the surface of the body." In another place he says, " Let but the judicious treatment of patients afflicted with sibbens be accompanied with the daily immersion of such as are exposed to the contagion in any river, and the sibbens in a whole parish will be eradicated in a twelvemonth." I have been in the habit of advising all who are exposed, to a thorough washing with soap and water of the whole body, two or three times a-week. As an instance of the effects that may be assigned to preventive measures, the disease had been from 1825 to 1835 gradually on the increase, when about the latter period the alarm became so great as to give rise to a general distrust in all intercourse, and the consequence was a marked decline in the complaint. It was a curious fact, that during the ten years' reign of sibbens, itch was in complete abeyance; and scarcely a case was to be met with, till about 1836 and 1837, when it took the lead with more than its usual virulence.

If cleanliness is of importance as a preventive measure, it is no less so as a means of cure. In country practice, we in such cases substitute a thorough washing for the bath. Mercury has a specific effect in sibbens, and is in general at once resorted to. The general health being in no way affected, the patients are often allowed to follow their usual out-door employments, and take a blue pill night and morning, till the gums are slightly sore; in short, a gentle course of mercury continued for four or five weeks; while, at the same time, and in all stages of the disease, we freely apply a rod of caustic to the sores in the mouth, as often as circumstances will allow,—deliberately running it into all the folds around the tonsils. When a whole family are affected, and live at a distance, they are instructed how to apply the caustic every second day to each other, with a brush and strong solution. The condylomata about the anus and genital organs disappear with great rapidity under the local application of the ungt. hydr. fort., and attention to cleanliness. This disease is so completely under the control of mercury, that it rarely resists its influence beyond two or three weeks, even without any local application; but so strong is its tendency to run a course, that patients will sometimes return on our hands again and again, even after full salivation. This is particularly the case with the better classes who make earlier application. It is no uncommon occurrence for patients to return on the following year, and the very same month at which the disease first made its appearance the year previously, with little painful sores on the edge of the tongue; one, in particular, on the very tip. These I attributed to the mercury, and contact of the teeth, till I found them capable of propagating the disease. These, in some constitutions, may appear at the end of two years. Such require caustic only for their cure. When the sub-maxillary glands have returned to their natural state, and every symptom of the complaint has been gone for three or four months, the patient generally may consider himself pretty secure.

Infants who have caught them after birth, and children, get rapidly and often permanently well by a single grain of calomel daily for two or three weeks.

I have only given the hydriodate of potass a sufficient trial to prove its effects, as far inferior to mercury, and also the tincture of iodine to the sores, as less effectual than the lunar caustic.

For the secondary symptoms, they are now so rarely of the character that indicates a tainted constitution, that under attention to cleanliness alone they gradually disappear.

ARTICLE IV.—*Contributions to the Statistics of Injuries of the Head. University, and Surgeon to the Royal Infirmary of Glasgow; and in Glasgow, &c. &c.*

Continued from p. 1051

A TABULAR VIEW OF THE CASES OF COMPOUND

	Name.	Age.	Date of Admission.	State of Respiratory Functions.	Mental Powers.	Pupils.	Pulse.	Convulsions.	Paralysis.	Date of Operation.
NO EXTRAVASATION OF BLOOD.	1. P.M'A.	9	2d day.	Regular.	a.[1] Sensible. o.[2] Stupor.	Natural.	116	...	...	9th day.
	2. A.M'L.	23	1st day.	Natural.	a. Sensible. o. Sensible.	Natural.	84	...	...	1st and 10th.
	3. J. M'L.	17	1st day.	Natural.	a. Drowsy. o. Insensible.	Dilated and sluggish.	86	...	...	10th day.
	4. R. C.	40	1st day.	Natural.	a. Stupor. o. Insensible.	Natural.	...	Frequent and general convulsions.	...	2d and 3d.
	5. W. H.	20	2d day.	Stertorous.	a. Sensible. o. Sensible.	Natural.	85	...	...	2d day.
	6. J. M.	46	1st day.	Natural.	Not recorded.	Dilated.	...	Convulsive tremors of limbs.	Left side.	1st day.
	7. R.M'L.	9	1st day.	Natural.	a. Drowsy. o. Drowsy but sensible.	Rather dilated.	66	...	...	1st day.
	8. G. Y.	28	1st day.	Natural.	a. Sensible. o. Sensible.	Natural.	...	...	...	1st day.

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[1] *a.* Condition at admission.

[2] *o.* Condition at the date of operation.

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of vol. for 1843.

Fracture which were operated upon.

Change after operation.	Situation of Injury.	Date of Death or Dismissal.	Results, Dissection, &c.
Respiration became more difficult.	Right side of the frontal bone.	10th day.	*Dissection.*—The pericranium is detached from the bone to a considerable extent. There is a considerable quantity of pus over the surface of the dura mater, and also within the arachnoid sac, over the anterior hemispheres. The right anterior lobe is of a greenish colour.
None.	Left superciliary ridge.	12th day.	*Dissection.*—The superciliary ridge, and a small portion of the orbital plate is fractured and comminuted; there is considerable serous effusion on the surface and at the base of the brain, and 3½ ounces in each of the lateral ventricles.
None.	Frontal bone.	13th day.	*Dissection.*—The fracture extends to the petrous portion of the temporal bone; the vessels of the cerebellum are turgid; the membranes are opaque, and purulent matter is effused at the base of brain; the ventricles contain about 4 ounces of serum mixed with pus.
Breathing became calmer.	Over right frontal sinus.	3d day.	*Dissection.*—Fully a square inch of both walls of the frontal sinus have been removed by the trephine; the membranes are torn and the brain lacerated and softened at the site of the injury; the membranes covering both the anterior hemispheres are inflamed, and sero-purulent matter effused into the arachnoid sac, and also beneath the pia mater.
None.	Over the left parietal bone.	5th day.	*Dissection.*—The inner table of the skull around the site of the injury is considerably depressed, and the outer entire; the dura mater beneath the perforation made by the trephine is dark and sloughy, and the brain softened to a considerable depth; the membranes covering the injured hemisphere are injected.
Breathing and pupils became natural.	Both the parietal bones, at vertex of head.	6th day.	*Dissection.*—At the site of injury the tables of the skull are separated, and the inner pressed upon the brain; the arachnoid membrane is inflamed, and its surface covered with purulent matter; there are 3 ounces of turbid serum in the occipital fossa.
His condition seemed improved.	Centre of frontal bone.	8th day.	*Dissection.*—The dura mater is detached from the whole of the internal table of the frontal bone, and coated with yellowish lymph. The arachnoid sac contains 2 ounces of well-formed pus; the left anterior lobe is extensively softened.
None.	Margin of the right orbit.	14th day.	*Dissection.*—The cerebral vessels are very turgid, and also those of the theca vertebralis and spinal cord; there is a considerable quantity of serum at the base of the skull; there is slight inflammatory redness of the lining membrane of the larynx and trachea.

	Name.	Age.	Date of admission.	State of Respiratory Functions.	Mental Powers.	Pupils.	Pulse.	Convulsions.	Paralysis.	Date of Operation.
EXTRAVASATION OF BLOOD.	9. J. H.	...	1st day.	...	a. Comatose. o. Comatose.	...	58	...	Mouth drawn to left side.	1st day.
	10. S. L.	40	2d day.	Stertorous.	a. Comatose. o. Comatose.	Dilated and fixed.	90	...	...	2d day.
	11. D. H.	34	2d day.	Natural.	a. Drowsy and incoherent. o. Stupor.	Natural.	60	...	...	10th day.
	12. J. H.	17	4th day.	...	a. Sensible. o. Insensible.	...	Weak.	...	...	6th day.
	13. M. G.	...	1st day.	...	a. Insensible. o. Insensible.	...	Small and weak.	...	...	9th day.
	14. J. C.	52	1st day.	...	a. Drowsy. o. Stupor.	Natural.	75	...	Right arm & features drawn to left side.	2d day.
	15. A. F.	82	2d day.	Stertorous.	a. Insensible.	Right dilated, left contracted, both fixed.	96	...	...	3d day.
	16. S. B.	27	2d day.	Natural.	a. Sensible. o. Sensible.	Natural.	60	...	Right side.	2d day.
	17. A. W.	20	3d day.	...	a. Sensible.	...	...	...	Difficulty of articulating.	15th day.

Change after Operation.	Situation of Injury.	Date of Death or Dismissal.	Results, Dissection, &c.
None.	Right parietal bone.	17th day.	*Dissection.*—The dura mater beneath the perforation made by the trephine is ulcerated, and beneath it there is an abscess containing ℥ss of pus; the brain is very vascular, but in other respects sound.
Became weaker.	Centre of right parietal bone.	4th day.	*Dissection.*—The fracture extends from the right parietal bone to the basis of the skull; on right side there is some effused blood external to the dura mater, and on the opposite the extravasation is very extensive and separates the dura mater from the bone to a considerable extent, but the bone is not injured; there is some serum in the ventricles and also at the base of the brain, mixed with blood.
Became more collected.	Above the left mastoid process.	14th day.	*Dissection.*—In the situation of the fractured bone, and within the arachnoid sac, there is a large clot of blood, and the cerebral substance on which it rests is softened to a very considerable depth; indeed a portion of the brain, about the size of a hen's egg, is converted into a pultaceous mass.
None.	Over the occipital protuberance.	7th day.	*Dissection.*—The fracture is very extensive, and courses through the basis of the skull; there is no blood external to the dura mater, but numerous clots within the arachnoid sac on the right side, and some also at the base of brain; the cerebral substance surrounding those in the latter situation is extensively softened.
None.	Over left side of occiput.	9th day.	*Dissection.*—The fracture is very extensive, and a spicula has penetrated the A. M. media and given rise to extensive extravasation over the whole of the right hemisphere; there is a clot of blood in the substance of the right hemisphere, and the cerebral substance surrounding it is broken down and softened.
Seemed to be much relieved.	Over the left side of forehead.	5th day.	*Dissection.*—The bone is extensively comminuted at the left temple, and the dura mater detached by clots of blood; the membranes covering the left hemisphere are red, and pus is effused within the arachnoid sac; the whole of the left hemisphere is somewhat softened.
Became weaker.	Over the upper part of the left parietal bone.	4th day.	*Dissection.*—The fracture is very extensive and extends to near the base of the skull; there is extensive effusion of blood in the arachnoid sac, and several clots in the substance of the left hemisphere.
None.	Left parietal bone.	4th day.	*Dissection.*—The dura mater beneath the perforation made by the trephine is sloughy, and the brain in a state of *ramollissement* to the depth of an inch; there is a thin layer of blood over both the cerebral hemispheres.
Power of articulating returned.	Left parietal bone.	23d day.	*Dissection.*—There is a large quantity of pus below the pericranium, around the site of injury; the dura mater beneath the perforation is of a dark colour, and the cerebral substance softened and mixed with pus; the left hemisphere is coated with yellow pus, and there is some coagulated blood underneath the fractured spot.

	Name.	Age.	Date of Admission.	State of Respiratory Functions.	Mental Powers.	Pupils.	Pulse.	Convulsions.	Paralysis.	Date of Operation.
EXTRAVASATION OF BLOOD—*continued.*	18. H. M'C.	54	1st day.	Noisy.	*a.* Comatose. *o.* Comatose.	Sluggish.	34	...	...	1st day.
	19. J. M'K.	—	1st day.	. .	*a.* Stupor. *o.* Stupor.	Dilated and sluggish.	80	...	...	1st day.
	20. J. L.	—	1st day.	Stertorous.	*a.* Comatose. *o.* Comatose.	Right contracted, left dilated, both fixed.	...	...	...	1st day.
	21. A. S.	30	1st day.	Stertorous.	*a.* Insensible. *o.* Insensible.	Right dilated, left contracted, both fixed.	64	...	Right arm.	1st day.
	22. J. K.	26	1st day.	...	*a.* Insensible. *o.* Insensible.	...	Small.	...	...	1st day.
	23. C. O'B.	20	1st day.	...	*a.* Stupor. *o.* Stupor.	Sluggish.	92	...	...	1st day.
	24. J. L.	7	1st day.	Noisy.	*a.* Stupor. *o.* Stupor.	Sluggish.	Feeble.	...	...	1st day.
	25. W. C.	36	1st day.	...	*a.* Delirious and insensible.	Right more dilated than left.	96	...	Right side partially.	1st day.
NO DISSECTION.	26. D. M'C.	26	2d day.	Calm.	Sensible.	Natural.	80	...	Left side.	2d day.
	27. A. M'F.	27	1st day.	Loud.	Drowsy.	Dilated.	100	...	...	1st and 2d days.
	28. ——	—	2d day.	Stertorous.	Comatose.	Left dilated, right contracted, both fixed.	116	...	...	2d day.
	29. D. M'I.	—	1st day.	...	Insensible.	...	...	...	...	1st day.
CURED.	30. M. B.	—	9th day.	..	Sensible.	...	...	...	Left foot.	9th and 10th day.

Change after Operation.	Situation of Injury.	Date of Death or Dismissal.	Results, Dissections, &c.
Pulse rose to 48, and he became very violent.	Posterior and inferior angle of the left parietal bone.	3d day.	*Dissection.*—The fracture is very extensive, and traverses the basis of the skull; at the site of injury, and within the arachnoid sac there is a coating of blood, and at the base of the brain there are about three ounces of serum mixed with blood.
None.	Over vertex of head.	2d day.	*Dissection.*—The fracture extends from the vertex to the foramen magnum; the brain is extensively lacerated; the right lateral sinus is ruptured, and the whole of the posterior hemispheres covered with blood.
None.	At junction of frontal with parietal bones.	1st day.	*Dissection.*—The fracture courses through the base of the skull, and is very extensive; the lower part of the left middle lobe is lacerated, and a large quantity of blood effused over the left hemisphere, and also at the base of the brain.
He seemed more sensible, and the pupils became more active.	Over the right eyebrow.	7th day.	*Dissection.*—The fracture traverses the basis of the skull; the dura mater beneath the perforation is coated with coagulable lymph; there is very extensive extravasation within the arachnoid sac, over the anterior part of the left hemisphere, the posterior part of both hemispheres, and also at the base of the brain.
None.	Forehead.	3d day.	*Dissection.*—The fracture extends to the centre of the sphenoid bone; there is purulent matter in the arachnoid sac; the brain beneath the site of injury is very highly injected, part of it is also ruptured, and blood effused into its substance.
None.	Left side of head.	3d day.	*Dissection.*—The dura mater at injured spot is of a dark colour; there are several coagula within the arachnoid sac, and the brain is softened to a considerable depth.
None.	Right parietal bone.	2d day.	*Dissection.*—The fracture is very extensive; the arachnoid sac contains a quantity of serum; at the base of the brain there is a considerable quantity of extravasated blood, and the cerebellum on which it rests is in a state of *ramollissement.*
None.	Left side of crown of head.	2d day.	*Dissection.*—The fracture is very extensive, and traverses the whole of the basis of the skull; the dura mater at site of perforation is lacerated, and beneath it there is a large quantity of firmly clotted blood; there is also some blood effused beneath the pia mater, and the brain on which it rests is softened.
None.	Right parietal bone.	22d day.	No dissection.
None.	Left parietal bone.	2d day.	No dissection.
None.	Right side of head.	3d day.	No dissection.
None.	Vertex.	1st day.	No dissection.
None.	Upper part of head behind the coronal suture.	45th day.	Dismissed cured.

Cured—continued.

Name.	Age.	Date of Admission.	State of Respiratory Functions.	Mental Powers.	Pupils.	Pulse.	Convulsions.	Paralysis.	Date of Operation.	Change after Operation.	Situation of Injury.	Date of Death or Dismissal.	Results, Dissections, &c.
31. J. L.	13	1st day.	Natural.	*a.* Stupor. *o.* Insensible.	Natural.	60	...	Left side very weak.	2d day.	None.	Right side of head.	50th day.	Dismissed with advice to go to the country.
32. D.M'L.	11	1st day.	Natural.	*a.* Stupor. *o.* Stupor, increased.	Natural.	84	...	...	7th day.	Pulse rose from 65 to 96.	Right parietal bone.	32d day.	Dismissed cured.
33. P. T.	67	1st day.	...	*a.* Sensible. *o.* Sensible.	...	...	...	...	1st day.	Bore the operation well.	Posterior part of right parietal bone.	48th day.	Dismissed cured.
34. D. H.	35	8th week.	...	...	...	...	...	...	1st day.	...	Right parietal bone.	52d day.	Dismissed cured. This patient was not operated on in the Infirmary, but was admitted seven weeks afterwards, and remained until a fragment of bone exfoliated.
35. J. W.	20	2d day.	Natural.	*a.* Stupor. *o.* Stupor.	Natural.	80	...	...	1st day.	None.	Right temple.	38th day.	Dismissed cured.
36. R. R.	18	...	...	*a.* Comatose. *o.* Comatose.	...	60	...	Mouth drawn to left side.	1st day.	Pulse rose from 60 to 84.	Over occiput.	83d day.	Dismissed with advice to go to the country.
37. R. A.	40	2d day.	...	Sensible but childish.	Variable.	60	...	...	2d day.	...	Left side of forehead.	47th day.	Dismissed cured.
38. W. C.	10	1st day	...	Drowsy.	...	...	...	...	1st day.	...	Occipital bone.	36th day.	Dismissed cured.

CASES OF COMPOUND FRACTURE,

WITH DEPRESSION OR COMMINUTION, WHICH WERE OPERATED UPON.

The preceding tables give a correct outline of the nature of the symptoms, the duration and effect of the treatment, and the result of the above division of cases.

The question of operation—one of the most important in connection with injuries of the head—having been purposely deferred until a summary of all the cases had been given, now presents itself naturally for consideration. It will be necessary to discuss this question, as far as possible, in all its bearings, or at all events, so far as it is applicable to the various divisions of cases, the details of which have been given in this and the preceding papers.

I. CONCUSSION.—The idea of removing a portion of the cranium for the purpose of relieving the immediate symptoms, or of averting the evil consequences which may follow *concussion of the brain*, is now completely exploded; but the propriety of an operation to allow the escape of purulent matter, the product of inflammation following concussion, is still open to discussion. Collections of pus, in situations from which the matter can be removed by a simple perforation of the cranium, appear to be extremely rare. Pus was found between the dura mater and the bone in only one of the *concussion* series of cases; and even in that case, operative interference could have been of no service, as a layer of matter was spread over the whole of the upper part of the surface of the brain, beneath the dura mater, and several abscesses existed in the centre of the cerebral substance.[1] The conclusion deducible from these cases is in perfect unison with the experience of Sir A. Cooper, Sir B. Brodie, and Mr Guthrie, all of whom think that little benefit is likely to accrue from any operation in such cases. The highly interesting case recorded by Baron Dupuytren, in which he punctured the brain to the depth of an inch, and gave exit to pus, after which the patient recovered, can only be considered a *fortunate* case, and not a precedent to guide us under similar circumstances.

The propriety of even entertaining the idea of operating for the consequences of *concussion* appears to us to presuppose the following conditions: 1*st*, A wound, bruise, or "puffy tumour" indicating the spot which has probably sustained the greatest amount of injury. 2*d*, Very generally, if not absolutely, such an inflamed or suppurating condition of the injured soft parts, as renders it more than probable, that the corresponding portion of the dura mater is in a similarly diseased condition. 3*d*, Inflammatory fever, preceded or followed by rigors and symptoms of compression. In the absence of all, or at all events, of the first and third of these conditions, the question of "operation" should not be entertained for a moment. When these conditions are present, the case is one of injury of the scalp complicated with concussion, which external injury will probably have acted its part in the production of the internal mischief. The case referred to, (*the fifth of the concussion series*), was of this description: the concussion was complicated with a wound exposing the bone, inflammatory fever set in, and it was followed by repeated rigors. The symptoms would have justified the use of the trephine; but as dissection showed, the patient could not have been saved.

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[1] See Case 5th, page 671, of the MONTHLY JOURNAL for 1843.

It is perhaps unnecessary to add, that a wound of the scalp not complicated with concussion may cause internal suppuration, and justify the use of the trephine. Such cases are very rare.

II. EXTRAVASATION OF BLOOD.—The question of operation in cases of extravasation of blood within the skull, is one of a very complicated character. If we arrive at the conclusion, that the effused blood is the cause of the insensibility and other symptoms present, the evident indication of cure is the removal of the blood; but at this step the two following formidable queries present themselves: *1st*, Can we ascertain at what part of the head the blood is effused? *2d*, Can it be discovered and removed by perforating the cranium with a trephine? We fear that in most instances both queries must be answered in the negative. No symptom, or combination of symptoms, which have hitherto been noted, sufficiently indicate the locality of the pressure, or show whether it be external to the membranes, on the surface of the brain, or into its substance. The cases of *extravasation* which we detailed in the second contribution,[1] amounted to 24: 12 complicated with simple fracture; 4 with compound fracture; and 8 unaccompanied with any injury to the bone. In three of these cases the blood was found to be situated externally to the dura mater, but in one only, could its removal have been effected with a good prospect of a favourable result; in the second, it might have been removed although it extended towards the base of the brain; and in the third, ordinary operative interference could not have been of any benefit, the effusion having been situated on both sides of the head. Of the cases given in the tables which accompany this paper, 17 were complicated with extravasation of blood; in two of these the site of the extravasation was not clearly indicated; in two only was it situated between the dura mater and the bone, and even in these, not confined to one spot. In one (*Case* 10 *of Tables*,) it was found on both sides of the head, and to the greatest extent on that where there was no fracture. In another, (*the* 13*th case*,) the blood was effused between, or beneath, the membranes, at the base of the skull, or into the substance of the brain. We have thus 39 cases in which extravasation existed as the principal lesion, or as an important complication, in only one of which could an operation have saved the patient, and of the 17 cases operated upon, not one recovered after, or was benefited by, the removal of coagula.

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[1] Volume for 1843, p. 784.

So far, then, as this series of cases goes, very little encouragement is held out for operating in those cases in which the symptoms indicate compression caused by effused blood. In the only case which might have been benefited, the blood lay above the ear at the anterior inferior angle of the parietal bone. In well marked cases where this portion of bone *is seen* to be fractured, we are justified, perhaps called upon, to apply the trephine if the symptoms are urgent; but if the bone be sound and the symptoms at all equivocal, the propriety of interference appears to us extremely doubtful. We must at the same time decidedly demur to Sir B. Brodie's recommendation, to apply the trephine on "speculation" in any such case. Experience, the highest of all authority, appears to us to forbid it.

The following cases illustrate the above remarks:—

Case 67. S. L., aged 40. *18th March.* Last night she fell backwards on a stair, and was rendered quite insensible; since the accident she has spoken none, and has continued in a drowsy stupid condition, having risen only to void urine. She is now quite comatose, the breathing is rather stertorous; the pupils are dilated and fixed; the pulse 90, rather full. There is a deep cut coursing along the centre of the right parietal bone, but although this wound was somewhat enlarged, no fissure or depression was discovered.—*Habeat calomelanos gr.x et post horas duas injiciat. enema domestic.—Abrad. capill.*

19th. During the course of the last night the breathing became more stertorous, and the pulse very full; 20 ounces of blood were therefore taken from the jugular vein, after which the pulse became less full and the breathing more natural. A careful examination of the exposed bone detected a very slight fissure, over which a trephine was applied, and a portion removed. No blood was found underneath; during the operation she became very weak, but after she was put to bed she recovered her former strength. The insensibility continues as before the operation; the pulse is 100.

20th. No change, except that the pulse is weaker. Died at 11 o'clock P.M.

Dissection.—The fissure discovered on the 19th, is found to extend to the basis of the skull, but there is no displacement any where; on the surface of the dura mater, beneath the fissure, there is a very small quantity of extravasated blood. On the opposite side (*the left*) the dura mater is separated from the cranium by a considerable quantity of effused blood, but the bone covering it is uninjured. The ventricles contain more serum than usual, and at the base of the brain there is a considerable quantity mixed with blood.

Case 68. J. M'K., aged —. *28th May.* Two hours ago he fell backwards into the hold of a vessel loaded with iron, and struck the back part of his head; he is now in a state of stupor from which he can be roused without much difficulty, to give an indistinct answer; the pupils are slightly dilated and sluggish; the pulse is 80, of tolerable strength. There is a wound nearly three inches in length over the vertex of the head, through which the bone is felt fractured and apparently considerably depressed; the dura mater must be lacerated, as portions of cerebral matter escape from the wound. By advice of a consultation the wound was immediately enlarged, and a portion of the superior and posterior angle of the left parietal bone measuring two and a half inches in length, by one inch in breadth, was removed by the forceps, and another portion more anteriorly was partly elevated by an elevator, and partly removed by Hey's saw; the membranes of the brain were ascertained to be extensively lacerated, and a portion of cerebral substance protruded. During the operation the patient was very obstreperous, and considerable hemorrhage occurred, which was arrested with dossils of lint.—*Habeat statim enema purgans.*

29*th*. The enema has operated gently; he has passed a very restless night, and is now quite comatose; the pulse is small and feeble; the extremities are cold, warm fomentations were ordered to be applied to the extremities. Died at 10 o'clock P.M.

Dissection.—The fracture is stellated, two fissures extend from the site of the perforation, backwards to the foramen magnum, where they unite. The brain underneath the site of injury is lacerated as deep as the covering of the lateral ventricles, and a small fragment of bone is imbedded in the cerebral substance. The right lateral sinus is ruptured and the whole posterior surface of both the hemispheres is covered with blood. At the base of the brain there is some serum mixed with blood.

An interesting question arises as to the period at which an operation for the removal of extravasation should be performed. It has already been laid down as a general rule, that operative interference is not justifiable in any case, until the *immediate* shock of the accident has passed off, (see Case 69); but having decided, *on good grounds*, that an operation is called for, it ought not to be delayed, as a general rule, longer than twenty-four hours from the occurrence of reaction. Late operations only hasten the fatal catastrophe, as the following case shows.

Case 69. M. G., aged —. 21*st September*. This afternoon she is reported to have been thrown over a window; she is now quite insensible; the breathing is calm; the pulse quick and small; there is a cut over the left side of hind head.—*Abrad. capill. statim.*

22*d*. She continues insensible, and has passed the evacuations repeatedly in bed; no other change.—*App. toto capiti vesicator.*

23*d*. This morning, as she appeared to be sinking, she got some spirits; she is quite insensible; tosses about in bed; there is strabismus of the right eye, but both the pupils are of a natural size;

pulse 80, small; skin cold. An exploratory incision has been made without discovering a fissure.

26th. The bowels are open; there is no change, except that the surface is now of a natural heat.—*Habeat st. calomelanos gr.vi.*

29th. There has been no change worthy of note since the last report. To-day she has had a rigor; the breathing is quick and laborious; the pulse is very quick.

30th. The pulse is very small and weak; the feet are cold; the pu- are as described in the report of the 23d. A trephine was applied over the exposed bone, and the portion removed was discovered to be fractured. The instrument was again applied a little higher up, and another circle removed; underneath both the perforations, the dura mater was separated from the skull by a considerable quantity of blood; the blood was removed, and the wound dressed lightly. No change of symptoms was observed after the operation, but she continued to sink, and expired a short time after its performance.

Dissection.—The fracture is found to extend, from the part over which the trephine was applied, forward to the coronal suture, where it divides; the one comes upwards, the other downwards, along the track of the arteria meningea media; at one part a small portion of bone is completely detached, and appears to have lacerated a branch of the artery, and from this spot the blood extends backwards in the course of the fracture to the occipital bone. A quantity of bloody fluid is found in the arachnoid sac, and a large quantity of clotted blood over the whole of the anterior lobe of the right hemisphere; in the substance of the same hemisphere a clot is imbedded, and the cerebral substance surrounding it is broken and softened. Both ventricles contain a considerable quantity of serum.

Whilst hesitating regarding the propriety of an operation, free depletion is worse than useless.[1]

III. SIMPLE FRACTURE.—Eleven cases of this description were detailed in the third communication.[2] Three of simple fracture proved fatal in consequence of inflammation; three complicated with depression of part of the bone recovered under antiphlogistic treatment. Five cases were operated upon, and all died. A reference to these cases will show that symptoms indicative of compressed brain, and not the state of the bone, were the reasons for having recourse to operative procedure. In one of these cases no dissection was permitted; but in the remaining four, the morbid appearances were very extensive, and such as could not have been benefited by any operation. These cases will be noticed more fully in the sequel. In the mean time we may remark, that simple uncomplicated and non-comminuted fracture, can rarely if ever be ascertained without an exploratory incision; that incisions in such cases are not justifiable, and that removal of bone can never be required. It may, and we believe has happened, that in simple comminuted or depressed fracture, the state of the bone may be ascertained without an incision, and that the fragments of bone, in consequence of irritating the brain, may occasion convulsions. Such a combination may demand incisions, and the removal of the irritating cause; the present series of cases, however, affords no example of such a lesion. Simple fracture *with depression*, must generally be overlooked, unless the depression be very considerable, and if there be no general symptoms present, such cases should not be interfered with surgically. The cases in which the depression was discovered without any incision, have been already detailed; they recovered without any operation. Simple fracture, especially when complicated with comminution or depression, may give rise to inflammation and the formation of pus, and require the removal of the depressed bone. No successful case of this kind has been met with in our present investigation.

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[1] We have already expressed our sentiments on the subject of depletion as a cure for extravasation.—See MONTHLY JOURNAL for 1843, p. 869.

[2] MONTHLY JOURNAL for 1843, p. 848.

IV. Compound Fracture.—It is in cases of compound fracture that the question of operation occurs in its most frequent and interesting form. A reference to the tables which have accompanied our communications will show that there occurred of compound fractures, including the cases which ended in hernia cerebri, 77 cases, 29 of which recovered, and 48 proved fatal: of which number, 26 were not interfered with surgically, 18 of whom recovered and 8 died: 51 were operated upon, 11 of whom recovered and 40 died.

In considering the question of operation in reference to these cases, two circumstances demand attention. 1*st*, The state of the bone apart from the cerebral symptoms. 2*d*, The state of the bone conjoined with the cerebral symptoms. Before entering upon the consideration of these questions, it may be remarked that hardly any two cases of injury to the head are exactly alike—that every case must be treated on its own merits, so to speak, and requires a rule for itself, and hence arises the difficulty of establishing or applying any general rule in practice.

In discussing the state of the bone apart from the symptoms, the following questions arise. 1*stly*, What cases ought not to be interfered with. 2*dly*, What states of bone, if any, require interference in the absence of cerebral symptoms.

Under the first division, viz., cases for non-interference, we include: 1*st*, *Compound fractures of the skull, uncomplicated with depression or comminution*:—All modern surgeons are agreed that such cases ought not to be interfered with.

2*d*, *Compound fractures with slight depression and without comminution*:—Our experience is decidedly in favour of non-interference in such cases. Of fourteen such, ten recovered and four died, and making the allowances and deductions already stated,[1] the numbers stand thus:—ten recoveries and one death:—a success, to our minds, clearly justifying the practice pursued, and which entitles us to lay it down as a general rule that the slight forms of compound fracture with depression, ought not to be interfered with. It may be asked what constitutes a slight depression. We may refer, in answer, to the cases we have detailed as illustrations, and further, by stating that every surgeon must judge for himself, and decide in each individual case, more on its own merits than in conformity with any general rule. In so doing, we act in accordance with a principle applicable to all injuries, wherever situated, in which the question of operation is entertained. In compound injuries of the extremities, for example, there are two classes of cases in which the treatment is so clear that to amputate in the slight would be to sacrifice a limb, while not to amputate in the most severe, would be to deprive the sufferer of his only chance of life. But between these extremes lie the difficult cases, which must be judged of individually, and to which no general rule can apply.

Under the second division, viz., cases which may justify interference, we have, *3d, Depressed comminuted bone, the depression and comminution considerable, cerebral symptoms as nearly as possible absent.* A reference to the cases will show that this description of injury is exceedingly dangerous—that not a single case recovered without operative interference, and that of the eleven operated upon, three recovered and eight died. These facts, while they are not much in favour of operation, are still less in favour of non-interference. At the same time it must be granted, that as the majority of those admitted with extensively depressed and comminuted bone were operated upon and died, non-interference cannot be fairly judged of, because the operation may have had an injurious effect in some instances, and if *all* had been left without operation the result might have been more favourable. On this account we by no means affirm that these cases decide the question, but so far as they go are in favour of interference in cases of comminution and depression, irrespective of cerebral symptoms. We wish to be clearly understood as recommending the operation in this class of cases, only where the bone is comminuted or deeply depressed. In addition to the reason for this advice based on the above statistics, it must be borne in mind that the portions of the bone driven down and shattered can rarely be expected to live, and must come away at some period if the patient survive—that they are exceedingly apt to cause suppuration, and after the formation of pus, their removal, as a general rule, (to which we are aware there are exceptions), does no good.

In judging of the state of the bone which may require operative procedure, and to assist us in forming a correct opinion on this very important subject, we should always carefully ascertain and take into account the cause of the accident. The causes likely to produce the state of the bone which we are now considering, are smart blows inflicted by a sabre, the point of a pickaxe, the round head of a poker, a small pointed stone, and the like, in contra-distinction to falls on the head, or blows from large masses of stone or earth. In the first the bone is apt to be comminuted, and the internal table more injured, depressed, and turned down upon the brain, even at a right angle, than the state of the external table would lead us to suspect. In the second, the fracture may be more extensive and the depression seemingly greater, but the comminution, and especially the injury to the internal table will be less. We may further remark, that the cerebral symptoms arising from the first class of causes, are generally less than those produced by the second.

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[1] Vol. for 1843, p. 1044.

Two important questions now suggest themselves: 1st, How is the operation to be performed? 2d, How soon after the accident? As regards the first, we should always bear in mind that we are operating to rectify the state of the bone,—for the removal of comminuted, or elevation of depressed portions, and that this should be done effectually, especially as regards the internal table. To make sure that our object is effected, we should not spare the depressed, or even a portion of the surrounding sound bone. The opening should always be such as to enable us to ascertain with accuracy the condition of the internal table. The operation is undertaken, not with the view of removing present symptoms, but to prevent inflammation and the formation of pus: and if of three splinters of bone two be removed, and one left, we had perhaps better not have interfered. The following cases, the first of which occurred in the official practice of Dr Easton, surgeon to the police establishment of this city, illustrate the above remarks:

CASE 70. A man in the prime of life, received, in a drunken brawl, a blow on the right side of the frontal bone, with the head of a pair of tongs, from a strong young man with whom he had come into collision. He was rendered quite insensible, but when seen four hours afterwards by Dr Easton he could speak, and continued more or less collected till his death, which occurred seventeen days after the receipt of the injury. The blow had caused a compound comminuted fracture with depression. Fragments of bone were removed by the surgeon first called in, who thought the whole of the injured portions were removed. Dr Easton found on his arrival, the membranes lacerated, and a portion of the brain protruding through the opening. On examination after death, the opening in the bone was found to be nearly circular, and about an inch in diameter. The internal table was broken into three large, and several small fragments, and turned downwards and backwards so as to lie at considerably less than a right angle with the surrounding sound bone; two of these fragments were at least half an inch in length, and had small portions of the external table attached to them: one fragment was nearly detached from the dura mater, the others were adherent throughout. The brain was found to be completely disorganized in the vicinity of the injury.

The preparation, which is a very beautiful one, is in the Museum of Anderson's University.

CASE 71. W. H., aged 20. *8th April.* Yesterday, while at the bottom of a coal mine, a large piece of coal fell from a bucket and struck him on the head; he was only very slightly stunned by the blow, and walked to a surgeon's laboratory, where it was discovered that the skull was fractured, and a piece of cloth driven in between the fractured surfaces so firmly, that all attempts at removal proved abortive. The patient is now quite sensible, breathes calmly; the pulse is 85, of good strength. There is a wound two inches in length over the left parietal protuberance, and the bone beneath is fractured to the same extent; the left edge of the fissure is slightly depressed; the right rather elevated; and there is a piece of cloth and some pieces of coal firmly impacted between them. Three hours after admission, the trephine was applied over the elevated edge, and about half an inch of bone removed, a small angular piece was also removed by Hey's saw, and the depressed part raised by an elevator. The piece of cloth and the particles of coal were carefully removed, and the dura mater found to be entire. Thirty ounces of blood were taken from the arm shortly after the operation, and sixteen during the evening.—*Cap. haust. nig.* ℥*ii omni horâ donec respond. alv.—Abrad. capill. et app. lotio frigida.*

10*th*. He has passed a good night; pulse 96.—*Admov. cap. hirud. xviii.*—R. *Hydrarg. submur. gr.xviii; tart. antim.; pulv. digitalis āā gr.ii. Misce et divide in pulv. viii. Sumat. unam,* 6*tâ q. q. horâ.*

11*th*. About four o'clock this morning he was seized with violent pain in the frontal region of the head; eighteen leeches were applied immediately, but he rapidly fell into a state of profound coma, and expired in two hours afterwards.

Dissection.—On removing the skull cap, the inner table around the injured part was depressed to a very considerable extent, while the external was quite entire. The dura mater beneath the perforation made by the trephine, was of a dark colour, and apparently gangrenous, and the brain beneath was softened to a very considerable depth, and mixed with dark coloured blood; the membranes of the injured hemisphere were congested.

2*d*. How soon after the accident should the state of the bone be ascertained and remedied? If the condition of the bone calls for interference, the sooner, after the immediate shock of the injury has passed off, that we do so the better. Our object is to prevent inflammation and its consequences, and these, it is well known, occasionally follow the injury with great rapidity; the earlier, therefore, that any source of irritation is removed the safer for the patient.

The following case shows the danger of delay:

CASE 72. A. M'L., aged 23. *26th August.* Two hours ago, the handle of a crane in quick motion struck him over the left superciliary ridge, for ten minutes after which he lay in a state of insensibility; he is now quite sensible, and has walked some distance; the pupils and the breathing are natural, the pulse 84; there is a wound one inch and a half in length over the left superciliary ridge, and the bone is fractured, and considerably depressed. The wound was enlarged, and a small spicula of bone removed.—*Mitt. sang. e brachio ad ℥xxviii. Injiciat. enema purgans.*

27th. The bowels have been freely moved; he complains of pain over the right eye.—*Tempor. dextr. admov. hirud. x.*

31st. He continues to do well, the pulse is 88, strong.—*Rep. v. s. ad ℥xii.*

3d September. He complained more of pain in head yesterday, and twenty-four ounces of blood were taken; he still complains of headach; the pulse is 88; the tongue dry.—*Rep. v. s. ad ℥xvi.—Admov. tempor. hirud. xii.*

5th. He complains little, but the skin is very hot. The pulse is 140; the urine was passed in bed to-day.—*Mitt. sanguis ad ℥xii.*

6th. By advice of a consultation, a piece of depressed bone was removed by the trephine and Hey's saw last night; he has passed a quiet night, but is now occasionally delirious; he had three stools in bed to-day; the pulse is 124.—*Abradatur capill. et app. occipiti et nuchæ emplast. cantharid.—Mitt. sanguis e brachio ad ℥xvi.*

7th. Shortly after the date of the last report, he began to sink, and expired at six o'clock this morning.

Dissection.—The superciliary ridge and a small portion of the orbital plate were found fractured and comminuted; there was some serous effusion into the arachnoid sac over the surface and at the base, and three ounces and a half in each of the lateral ventricles.

It is no doubt true, that portions of bone may remain depressed, and give rise to no unpleasant symptoms for some days, and may then be removed successfully; but this can never form an argument for delay; because, if the operation is to be performed as a prophylactic, every hour's delay is an hour of danger incurred. A very good example of bone allowed to remain depressed, without causing any bad symptoms, and afterwards successfully removed, will be detailed when discussing the subject of hernia cerebri.

While thus advising operative interference in compound comminuted fractures, we are of course aware that there may be exceptions to this rule, and that operations of the simplest kind are not free from danger. The cases in which the exception might almost become the rule, are those of children and young persons; a proposition, in illustration of which, we have in former papers, quoted some interesting cases.

4. *Compound comminuted or depressed bone combined with cerebral symptoms.*—The various symptoms, which may show themselves in conjunction with severe injury of the bone, may, for our present purpose, be included under the three following heads: (1.) Symptoms of great irritation, including convulsions and delirium; the patient being sensible during the intervals, if such occur. (2.) Symptoms of mild or moderate compression or concussion. (3.) Profound coma, especially indicating compressed brain.

In the first class, when irritation, convulsion, or delirium are combined with compound comminuted fracture, we believe as a general rule, that the removal of the fragments of the bone is called for. The following case is in point. It is not improbable that immediate removal of the bone might have been attended with the happiest effects.

CASE 73. R. C., aged 40. *9th October.* About two hours ago, the patient was struck a violent blow on the right side of the forehead, in consequence of a piece of machinery giving way; he lay quite insensible for almost twenty minutes, then rallied, and walked home without assistance. After having the wound dressed, he became insensible, and had three attacks of general convulsions in quick succession, for which he was twice bled to a considerable extent, with partial benefit. He complains of shooting pains through the whole head, is now drowsy, but can be readily roused to give a correct answer; there is a wound about an inch in length above the right frontal sinus, the scalp is somewhat reflected, and a fissure with depression is observed: during each expiration, air escapes from the wound.

10th. By advice of a consultation called at ten o'clock last night, the wound was enlarged, and the anterior wall of the right frontal sinus found very much comminuted: a piece of detached bone was removed with the forceps and the wound dressed with adhesive plaster. During the course of the night he had a slight convulsive attack. Pulse 130, easily compressed, skin warm.—*R. tart. antim. gr. x, aquæ font. ℥viii, tinct. hyosciami, ʒii.—Misce.—Sumat ℥ss. 3tiâ q. q. horâ.—Capiti adhib. lot. frigid.*

11th. He has passed a good night, but had one convulsive tremor: he is now incapable of being roused, the breathing is stertorous, the pupils dilated, the pulse 140, small and weak; his hands are in perpetual motion. By the advice of a consultation, a small trephine was applied above the external half of the right orbital arch, and a circular piece of the anterior wall of the sinus removed. The elevator and forceps were then introduced, and nearly a square inch of the posterior wall removed in seven or eight pieces; and the dura mater, lacerated at one point, was brought into view. After the operation the breathing became considerably calmer, and the motion of the hands less frequent; but the amendment was very temporary, and he sank, and died at four o'clock P. M.

Dissection.—Fully a square inch of bone, including both external and internal tables, appears to have been removed by the operation; and no other fracture is observed, but the dura mater is slightly lacerated, and the brain beneath the wound is broken down and very much softened, to the depth of half an inch. The membranes of both sides, especially of the right, are inflamed and very much injected, and the arachnoid sac contains a large collection of seropurulent matter. Over the *left* hemisphere, on the surface of the arachnoid membrane, there is a quantity of pure pus, and a small quantity also beneath the pia mater.

We are aware that attempts to remove spiculæ of bone from the dura mater have given rise to convulsions, and that such fragments, when allowed to remain, have been afterwards discharged by suppuration, and the patients have done well; but such cases obviously differ from convulsions occurring before interference, and which are probably caused by the irritation of the depressed fragments.

5. *The same state of bone, combined with mild or moderate cerebral symptoms; i. e.* a state of stupor from which the patient can be roused. It appears to us, that of all injuries of the head, with the exception, perhaps, of such cases as those under division 3d, this is the one which most unequivocally calls for surgical interference. The state of the bone itself would, in the view we have taken, justify operation; the presence of cerebral symptoms indicates that the bone is *probably* exercising more or less pressure, and the mildness of the symptoms would lead us to entertain a reasonable hope that no other serious lesion has taken place, and that therefore an operation may succeed. Our prognosis will not be so favourable as when we are called upon to operate merely for the state of the bone, in the absence of cerebral symptoms, but the indication of cure is more obvious.

6. *Severe and urgent symptoms of compressed brain, conjoined with compound fracture of the skull.*—A popular rule for the use of the trephine is, that the symptoms of compression should be our guide to its employment,—when they are absent or moderate, whatever be the state of the bone, we ought not to interfere, but when they are urgent we ought not to delay the removing or elevating the injured bone. However well this rule may sound when delivered *ex cathedra*, it will be found of very little practical utility, for this reason, that if we limit interference to cases exhibiting urgent symptoms of compression, we had much better never interfere at all, in as much as such cases prove almost universally fatal. Such at least has been the experience of the Glasgow hospitals, for out of 56 cases operated on, including, in point of time, a period little short of 50 years, there does not occur in our records a single unequivocal instance of profound insensibility in which the mere operation of trephining removed the coma and paralysis, or in any way conduced to the recovery of the patient. We wish to be clearly understood as speaking of the trephine used in reference to the state of the bone in cases of profound insensibility, not employed to remove

extravasated blood. Nor does the cause of our want of success appear at all obscure. We believe that in practice the cases of urgent compression dependent on depressed bone alone, are very few indeed; we are well aware that many such are on record, we do not presume to impugn their accuracy, we merely affirm that the records of the Glasgow Infirmary do not add to their number. Urgent head symptoms are generally a compound of concussion and extravasation,—lesion sover which the state of the bone exerts very little influence, and which are rarely benefited by surgical interference.

Are we, then, never to interfere when profound coma, paralysis, and other symptoms of severe cerebral lesion are present? While we feel assured that there are very few cases in which interference will prove less successful and less satisfactory to the operators, we are not prepared to say that in them operation ought to be abandoned. The rules which appear to us the most rational and best supported by experience, are,

1*st*. Where the shock has passed off, and the patient is in a condition fit to bear the operation, we should operate where the state of the bone is such as would warrant interference in mild and less urgent cases. In other words, symptoms of severe compression should not prevent us from operating in those cases in which the state of the bone, irrespective of cerebral symptoms, seems to warrant operation, although our hope of benefit from the operation is very slight. In such cases, we ought not to expect that removal of depressed or comminuted bone will take with it the symptoms of compression; all we can look for is, that it will render the injury less complicated by removing an obvious source of irritation.

2*d*. Where we have good ground to suspect extravasation, we operate to give vent to the offending fluids; here also our hope of benefit from the trephine is very faint. On this subject, however, we must content ourselves with referring to a former communication.

3*d*. In all other cases of this class of injuries we think it good surgery not to interfere.

It appears to us that nearly the same rules apply to those cases in which symptoms of concussion are united with compound fracture. If the state of the bone *per se* demand interference, we ought to operate, to take away a source of irritation, not in the hope of removing the symptoms of concussion. In all other cases complicated with concussion, we ought not to interfere.

From what we have said, it will appear, that we coincide with those who, in using the trephine in cases of compound fracture of the skull, look more to the state of the bone than to the general symptoms, and who employ it more as a preventive of inflammation and its consequences, than as a cure for urgent symptoms, the immediate result of the accident. Opinions on this subject are of very little moment unless based on facts; our aim has been first, statistically to ascertain facts, and then to endeavour to draw legitimate inferences; and we freely admit, that our inferences and opinions are of no value unless on careful examination they be found in accordance with the cases detailed.

The details we have given are by no means in favour of the operation of trephine. Of 56 cases operated upon, 11 recovered, and 45 died.

We feel assured that this affords too favourable a view of the actual results. For many years it was a rule that no patient who died within twenty-four hours from the date of his admission was entered on the records of the hospital,—we know that from this cause many fatal operations, and among others not a few of trephine have not been entered in the case books, while very few of the successful have been omitted.

We are perhaps not travelling beyond the record when we say that it would not have been greatly to the disadvantage of the patients admitted into the Glasgow Infirmary, if a trephine had never found its way within its walls. Still, we would not willingly deprive ourselves of the use of the trephine. Like all other operations it is too often tried as a forlorn hope in hopeless cases, and in the more favourable is delayed till the proper period for its performance has passed. We believe that there are not many cases in which it can do good, but if these were properly selected, and promptly and effectually operated on, our statistics would show fewer operations, and not only relatively but absolutely more recoveries.

In conclusion, the operation of trephining is in itself a very serious and dangerous operation, especially in crowded hospitals. Dessault, in consequence of the very unfavourable results of the operation in the Hôtel-Dieu, completely abandoned it for several of the latter years of his life, and Mr Lawrence states that " of the instances in which I have seen the operation in this hospital, the greater number have terminated fatally, so that I can cite, as far as the experience of this hospital goes, very few instances in which the life of the patient has been saved by the operation of trephining."

[*The subject of Hernia cerebri will be discussed in the next paper, which will be the last of this series.*]

ARTICLE V.—*Cases from the Hospital Records of the Northern Infirmary, Inverness. By* DR S. CHISHOLM.

CASE 1. *Disease of the Tibia: ulceration of the anterior tibial artery.* Alexander Kennedy, aged 40, from the parish of Applecross,

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[1] See London Medical Gazette, vol. vi.

Ross-shire, was admitted on the 6th September last, for necrosis of the left tibia. His general appearance was sickly. He stated that the disease was of twelve months' standing, and that it had originated from a wound caused by the stroke of a stone upon the shin. On examination, a large ulcerated excavation, about four inches by three, was observed occupying part of the middle and inferior thirds of the leg, on its inner and anterior aspect. No tibia could be felt in the cavity, and the probe passed down to below the external malleolus. Several fistulous communications were also found on the inner side of the limb, around the ankle-joint. Numerous pieces of bone had been discharged. Appetite good. No night sweats. Pulse 96, weak. Tongue red around the edges, and foul in the entre.—*Hab. horâ somni sol. mur. morph.* ʒ*ss ex aq. ass.* ℥*i.*

8th September. A consultation, called by Dr Chisholm, was held to-day, at which it was unanimously recommended that the limb should be removed below the knee, after a few days' preparatory treatment.

At half-past six P. M. of this day, the house-surgeon was summoned on account of hemorrhage from the affected limb. On immediately attending, about four pounds of blood was found collected in a dish, exclusive of a large quantity, as appeared from the state of the bed clothes, which must have been lost before the patient was aware of it. On taking down the dressing, it was found to proceed from the anterior tibial artery, now involved in the ulceration. A graduated compress having been applied, Dr Chisholm was sent for.—*Habeat vini rubri p. r. n.*

At half-past eight P. M., Dr C. arrived, and after as short delay as possible, proceeded to perform the amputation by the light of six candles, assisted by Dr Wilson the house-surgeon, and Mr M'Kenzie, an apprentice of Dr Nicol.

The tourniquet being applied in the popliteal space, the limb was transfixed from the inner side, and the flap made in the usual form from the calf. Numerous vessels in the flap were found sending out blood, but being all speedily secured by ligature, little was lost during the operation. The edges of the wound were then brought together by five stitches of the interrupted suture, cold water applied, and the patient carried to bed.—*Hab. stat. liq. opii sedativi* ʒ*ss ex aquâ cinnamomi* ℥*i.—Cold water to be occasionally applied during the night, to the stump.*

9th September. Slept little, with the exception of about two hours towards morning; no bleeding has occurred, and he feels comparatively easy; pulse 100, pretty full; the dressing of last night has been removed, and strips of adhesive plaster with bandage applied.—*Let the stump be supported on a pillow.—Repetat. haust. anodyn. horâ somni.—Hab. ol. ricini* ℥*i.—To have half a bottle of porter daily, and full diet.*

12th September. The stump was again dressed; adhesion by first intention seemed to have taken place; there was no suppuration whatever; the pulse was 96, and soft; the tongue was clean.

14th September. The stump was again dressed; no bandage applied, but water dressing with oiled silk; very slight superficial secretion of purulent matter, apparently around the stitches only; health and appetite tolerably good; pulse 96, soft, and full; tongue clean; bowels regular; sleeps pretty well at night.

23d. Has been going on most satisfactorily since last report; all the ligatures, with the exception of that on the main artery, came away yesterday; purulent secretion quite superficial; and cicatrization proceeding rapidly.

27th. Progressing favourably; general health and appearance much improved.

October 11th. Cicatrization perfect, with the exception of about the size of a half-crown piece on the external side, which is however rapidly healing; general health and appearance good.

21st. The whole surface is now completely cicatrized, but a small fistulous opening has formed immediately in front, at the superior part of the cicatrix, and here the bone is somewhat painful; a little of the nitrate of silver in powder, on the point of a wax bougie, was introduced to the bottom of the opening, and simple dressing applied.

23d. A small piece of bone has to-day been discharged from the above-mentioned opening, and the pain is abated; no discharge of matter.

25th. Fistulous opening closed, and he is accordingly *dismissed cured.*

Case 2.—*Aneurismal varix.—Operation.*

Ann M'Lean, aged 12, from the parish of Urquhart, was admitted on the 22d of September last, for aneurismal varix, situated at the bend of the right arm. By a letter from a surgeon in Urquhart, it appeared, that about ten days before, on his attempting to bleed her from the arm, she became " violently obstreperous," and thrust forward her arm against the lancet, causing it to transfix the vein and puncture the artery. Firm pressure by bandage was judiciously resorted to; but up to the time of admission the hemorrhage recurred as often as it was removed. On admission, this was done, when the whole hand appeared cold and livid, with a few vesicles scattered over it; the bleeding very soon recurred from the wound, so that it was deemed advisable immediately to cut down upon the wounded artery, and tie it above and below the opening. No pulsation was felt at the wrist.

An incision about an inch and a half in length was made over the situation of the median basilic vein, and running in the same direction. On laying bare the wounded vessel, which proved to be the radial artery immediately after its origin, an aperture nearly a quarter of an inch in length was brought distinctly into view, and a ligature easily applied below and above the wound, by means of the aneurismal needle. The lips of the external incision were then brought together with two stitches of the interrupted suture, cold water dressing applied, and a slack bandage. In about twenty minutes, the hand, which had been livid and cold formerly, became comparatively warm, and naturally coloured.

23d. Has passed a good night; no pain in the arm; no pulsation as yet perceptible in the wrist; tongue clean.—*Habeat ol. ricini* ℥i, *cras mane.*

25th. The dressing was this day removed, when the wound appeared to be healing kindly; pulse imperceptible at wrist; hand warm; pulse in the left arm 84, and soft.—*Continue the water dressing.*

27th. Wound again dressed to-day; stitches came away; pulse slightly felt at wrist; little or no matter about the wound.

October 1st. Inferior ligature of the artery separated; superior still remains firm; cicatrization progressing favourably.

3d. Superior ligature came away; granulations in the middle of the sore rather exuberant; to be touched with the nitrate of silver, and simple dressing applied; pulsation of the radial artery quite distinct at the wrist; pulse 72.

10th. Wound quite whole, and she is now *dismissed cured.*

PART SECOND.

REVIEWS.

Some Account of the Epidemic of Scarlatina which prevailed in Dublin from 1834 *to* 1842 *inclusive; with Observations. By* HENRY KENNEDY, A.B., M.B., &c. 12mo, pp. 213. Dublin, 1843.

As the author remarks in his preface, it would be almost more correct to designate the disease which he describes endemic, than epidemic, as it prevailed in Dublin during the long period of eight years. The account, though it certainly is not quite so complete and satisfactory as it might have been made with a little more care, is yet good and valuable, being evidently drawn from a careful observation and study of nature. It is an important addition to what Dr Graves has said in his *Clinical Medicine* on the same subject.

In the *first chapter*, the author speaks of the disease under the two divisions of simply malignant, and complicated malignant. The pathology of each of these forms is discussed.

> "The epidemic," says the author, "which it is my object to bring under notice in the following pages, may be classed under the head of the 'Scarlatina Maligna' of authors; not that every case puts on the malignant form, but because in proportion to those attacked, the number of deaths has been very considerable. The late one, however, differed from all others in this respect, that at one period or other of its progress, it presented the features of all of those of which we have any account. Thus, for example, the form of scarlatina which has been so ably discussed by Armstrong, under the name of 'Congestive Scarlet Fever,' came often before me, but then it formed a part, and only a part of the whole epidemic; and so, I believe, the whole series might be gone through. Hence what follows will not be an account of a form of scarlatina never before met with, but rather a sketch of most of the epidemics hitherto put on record." Pp. 1, 2.

The *second chapter* is devoted to the symptoms of the disease, and a detail of illustrative cases. The *third chapter* speaks of the diagnosis and prognosis; the *fourth* of the treatment; and the *fifth* of anasarca, and other sequelæ of the disease. There is subjoined in an appendix, a report by Dr Sym, of an epidemic of scarlatina which prevailed extensively in the county of Armagh during last year. It was of a milder nature than that which raged at the same time in Dublin; and it is Dr Kennedy's impression, "that should two epidemics exist at the same time, one in a large city, and the other in the country parts, and if equal numbers are attacked, the former one will turn out to be the severer of the two. The denser population of a city, the greater misery and want, and the well-known difference of the air between town and country, are probably sufficient reasons to account for this." P. 212. We believe that this remark may be correctly applied to all epidemics.

The following extract from the second chapter is a description of the

"SYMPTOMS OF THE EPIDEMIC.

"*The invasion* struck me as being remarkably sudden; a boy would feel well up to a certain period, not having made any complaint whatever, and then some feeling came on in an instant, and from this forward the disease progressed. When the attack commenced in this sudden way, the symptoms were commonly, though not always, referred to the stomach; while at a meal, nausea would be felt, or vomiting, so unexpected, that I have known it to take place at the very table. At other times, it was a feeling of sinking or a sense of faintness, the distress still being referred to the stomach, and the countenance showing it by becoming pale. Again, the head was the first part complained of, and then the patient described a feeling of reeling or dizziness. As showing, too, the suddenness of the attack, it may be mentioned that the patient would feel well enough to go to school in the morning, and yet in two or three hours would return with the disease on him. I have known, too, a lady and her daughter go to their place of worship—be there seized with nausea—have it within a few minutes of each other, and come home, the girl passing through a mild attack of scarlatina, while the mother was affected with the sore throat of the disease. The attack in other instances came on under very different circumstances. I saw a young lady at a boarding-school, who had gone to bed making no complaint; in the morning, when sent for, I found her covered with the eruption of scarlatina, and also having well marked sore throat. One of the most remarkable cases, however, which came under my notice, was the following:—A large powerful man about thirty-five happened to fall into water; on being taken out he was seized with rigor and symptoms of collapse, and from that moment scarlatina declared itself. Again, the throat was the first part complained of, and here the attack was usually more *gradual; even* to this, however, there were exceptions, for I met cases where, though the first symptom was referred to the throat, others followed so rapidly on it, that it could scarcely be said to take the lead. In a few instances the sore throat was distinctly intermitting, that is, the patient complained for two or three nights of it, and then scarlatina appeared. Sometimes broken sleep was the precursor of the attack, and then the patient on awaking found his throat sore. In other instances the disease began by well marked mumps, the patient stating that he was unable to open the mouth. Four individuals of one family were thus attacked, one of whom only got scarlatina; it is right to state, however, that the other three had been removed from the house before they showed any sign of mumps. One point connected with the sore throat I would particularly mention, as it appears to me of importance; I have satisfied myself that a patient may have the ulcerated sore throat of the disease, and yet make no complaint of it; and indeed, from all I have observed, I am led to suppose that, though the earliest symptom may be referred to another place, as the stomach, still some affection of the throat has preceded it in the great majority of instances, and it may even be possible to announce some day or two beforehand, that a person is about to be attacked with scarlatina, from inspecting the state of the throat. On this last point, I would of course speak with reserve, for I have not yet had sufficient opportunities of confirming it. Such then was the sudden way in which many of the cases of the late epidemic commenced, and I mention them the more particularly, because some of them were so slight as to be very capable indeed of throwing a person off his guard. Who, for instance, could suppose that a person would make some complaint of nausea while at a meal, and yet within eight hours the same person would be found labouring under a most serious attack of scarlatina? This was of common occurrence. Where indeed the attack was ushered in by sore throat or violent vomiting, the possibility of committing an oversight of this sort was of course taken away.

"Rapidly following the invasion of the attack, such as has been described, set in the stage of collapse. It was marked by the usual symptoms of this state—cold extremities, weak pulse, and sense of chill over the frame. This latter seldom amounted to the distinct rigor which so often precedes other diseases; it was more of a creeping or shuddering, and it often existed with a warm state of the surface. Its duration was very various. At times it could scarcely be said to exist, while again I have seen it continue through the whole disease; in this last class of cases it was sometimes broken, as it were, and it then showed itself by violent shudderings of not more than a moment's duration; and a most formidable symptom it then was. It sometimes happened that reaction never took place, and then of course collapse marked the attack from first to last. This occurred to the man I before alluded to, who fell into the water; he never rallied. It has been stated that distinct rigor at the very commencement of the disease was uncommon; as, however, it progressed, and in cases where there was about to be purulent effusion into the joints or elsewhere, there were but too many opportunities of seeing rigors marked to a degree which, I believe, no other disease presents. Sometimes but one was observed, while in other instances they were repeated, and ever of the most violent description; exceptions even to this rule have however come under my notice. The average duration of the stage of collapse, as far as came under my observation in the late epidemic, occupied a period of from two to five hours, after which, as reaction set in, all the more prominent symptoms of the disease made their appearance.

"*Sore Throat.*—This is a symptom which, in my experience, was never wanting; it varied of course in the degree of pain present, as well as in presenting a great variety of appearances to the eye, but I did not meet a single instance where the throat was entirely free from disease. It certainly is not conclusive evidence on this point, that the patient expresses himself as having no pain in his throat, because I have often found it sore when he made no complaint, even on being asked; this point should not be forgotten. The most common appearance of the throat was that with which all must be familiar—a very intense degree of redness of the internal fauces, accompanied by more or less swelling, including the tonsils, palate, uvula, and encroaching on the arches of the palate itself. On this latter part, the redness usually terminated by a well defined line, engaging probably about one inch forward from the uvula. One side of the throat was very constantly somewhat more implicated than the other, and the varieties to be observed were to be attributed rather to the different degrees of swelling, than to those of the redness. Thus, while the latter was constant, the swelling was sometimes so slight as to be scarcely appreciable; while in other instances, it was so great that the tonsils literally met, pushing the uvula as it were out of its place. I met these varieties in the mildest as well as the severest forms of the epidemic. The surface of the inflamed parts was either observed to be covered with a thick tenacious mucus, or else to be quite dry and glazed, the submucous glands on the roof of the mouth being then very prominent. In the cases where the inflammation was still more intense, lymph was effused either in patches, or else in one continuous sheet. In this state of the throat, many have observed that the appearances are extremely like those of ulceration, and that they have often been set down as such there can be no doubt. This sort of sore throat was quite distinct to the eye from that of diphtherite, which, while speaking of the pathology, I have stated I had met with during the late epidemic. This latter was of a much whiter colour, more continuous, and as far as I have seen, came much farther forward into the mouth itself. It was rarely met with in comparison with the variety of sore throat just spoken of before it. In some instances, an aphthous sore throat came under my notice; and in one remarkable case, which there will be occasion to speak of again, the appearance was nearly entirely confined to the uvula. The rapidity with which some of these spots disappeared, and again made their appearance, was very remarkable. The uvula was either inflamed like the other parts, or else it was infiltrated with serum, under which circumstances it attained an unusual size, and was then often seen two or three times larger than natural, and commonly lying forward on the tongue; under these circumstances, it sometimes gave rise to a great deal of distress. Two instances came under notice, where blood was extravasated into its substance, like a spot of purpura. The free extremity of it was now, too, larger than the attached; and indeed, where fixed to the palate, it often gave the idea of being much constricted, an appearance which I have also seen mid-way between the two extremities. I am not aware of any transverse muscular fibres being described, which would account for this. In cases where lymph was effused, it was not unusual to see the uvula glued to one of the arches of the palate; and in one instance, it was so fixed as to be pointed directly forward, not however deriving any support from the tongue. This gave a very remarkable appearance to the parts. More or less ulceration accompanied these forms of sore throat, with the exception of those cases where diphtherite existed; here, when the false membrane was thrown off, there would most probably have been found nothing but abrasion. On this point I only speak from what I have seen in cases of simple diphtherite; for the scarlatina patients, with this complication, did not live long enough for this process to go on. The ulcers occupied the upper part of the tonsil, a point which has been before stated, and which I suppose may be attributed to the greater size of the gland in this part,—the half arches of the palate, implicating either the free edges and so reaching the uvula, or else being situated entirely on the anterior surface, being then, in fact, in the mouth itself—the back of the pharynx,—the root of the tongue close to the epiglottis,—and lastly, the inner side of the cheek. They appeared always to be well defined, their surface being either covered with purulent matter, like any common ulcer, or in more severe cases by an ash-coloured slough; in some cases, which will be alluded to again, the sloughs were perfectly black; they varied from simple excoriations up to ulcers of probably four lines in depth, found in the tonsil. Their edges were usually raised, and of a darker colour than the inflamed parts around. It was not uncommon to see the sloughs thrown off and again renewed. In these cases, though this process was so far favourable, still it was observed that the parts around did not show a commensurate degree of improvement, but still kept up their angry and unhealthy appearance; hence, one could easily tell the cases where the sloughs would in all likelihood be renewed. Hæmorrhage to a slight degree frequently occurred in these cases, both from the mouth and in the form of epistaxis. It sometimes appeared to result from the efforts made to clear the throat, while, again, it came on spontaneously. It appeared often to give relief. No case of this form of hæmorrhage proved serious in my experience; one of great interest, and which was ultimately fatal, is, however, detailed by Dr Graves, and will be given farther on. One instance only came under my notice, where a sloughing sore formed on the inner side of the cheek. It was the size of a sixpence, covered with the usual sort of gray slough, and was exactly like the sores in the throat of the same patient. In the cases where little or no swelling existed, the appearances of inflammation were usually very slight; it was rather a state of congestion, and was accompanied more by excoriation than ulceration of the tonsil; in such, the whole throat was covered with a thin coating of dry and transparent mucus. Of all the cases of simple scarlatina which I saw during the late epidemic, these were probably the most fatal. This point appears to me worthy of notice, as showing what varieties may be met with in the progress of a disease so well characterized as scarlet fever, more particularly by the constant presence of sore throat; it also establishes the fact, that the disease may prove fatal, the throat at the same time being all but healthy,—a point to which Dr Graves has drawn particular attention, while alluding to the epidemics described by Huxham and Fothergill, under the titles of 'Ulcerous' and 'Putrid Sore Throat.' Where adults took sore throat from patients affected with scarlatina, little if any thing different from what has been stated already was observed. In two such cases, aphthæ formed in considerable numbers. A child of eighteen months old affected three grown-up persons in the same house; one of these three presented the appearance of the aphthæ, while the other two suffered from the common form of sore throat. In the second instance, a medical friend was inspecting the throat of a scarlatina patient, and was struck in a moment with the feeling of having caught sore throat himself; in four or five hours after, his throat became sore, and on inspection it was observed that the inflammation was confined nearly entirely to the uvula, on and in the neighbourhood of which a number of aphthæ made their appearance in succession. With this exception, I never saw an adult affected with the sore throat alone of scarlatina, in which there was not much swelling and inflammation of the other parts. Through the kindness of my friend Surgeon Antisell, I saw two children, brother and sister, who were affected with the severest form of sore throat which came under my notice during the whole epidemic. It is right to premise that, except from the throat, there were no grounds for pronouncing these cases to have been connected with scarlatina; for we were unable to trace them to any infection, neither had any eruption been observed. Both cases were remarkable, too, for their duration, the longest and worst case occupying a period of eight weeks. When I first saw this case, it had already lasted five weeks, and this too under very judicious treatment. The throat was very much inflamed, and of a dark unhealthy colour; the anterior face of either arch of the palate was occupied by an irregularly shaped slough of a jet black colour; when these fell out, a probe could be passed through the openings into the pharynx; there was purulent discharge from one ear, excoriations about the angles of the mouth, and a very obstinate diarrhœa, all of which reduced the child to a living skeleton. This child ultimately did well. The sister of this patient was affected in a similar way, though not to such a degree: besides the discharge from the ear, an abscess formed under it, which was opened, and she also did well.

"The pain which was felt in the throat varied as much as any thing else; sometimes it was very much complained of, the more so when there were appearances of acute inflammation present; at other times, the patient seemed to suffer but little; and it has been already stated, that some denied having sore throat at all, and this when, on inspection, ulceration was found. These differences must, in part, I think, be set down to the temperament of the individual, for they could not be accounted for by any varieties observed in the throat; in other instances, they were clearly traceable to another and much more serious cause. Little complaint was made, because by the severity of the attack the sensibility of the system was much deadened; in those cases where a state of congestion existed, little if any complaint was made—sometimes the sensibility of the throat subsided after the first or second day, the part however still remaining sore; while again, pain was complained of during the whole progress of the disease, and was not got rid of till all ulceration was healed. Great distress seemed often to arise from the accumulation of the secretions of the part, and the difficulty of getting these away; inability to swallow often arose from this very cause, for when they could be removed, the patient swallowed comparatively well. The cases of greatest suffering appeared to me to be those where, together with enlargement of the tonsils, the uvula was also much inflamed and enlarged, for it was often one without the other. It was in these instances more particularly, that the act of swallowing seemed to be next to impossible, and any fluid taken was forced through the nose with great force.

"The duration of the sore throat is of considerable consequence, from inattention to which, I feel satisfied, a great deal of mischief has arisen. The truth is, in many cases of scarlatina it remains much longer ulcerated than what is commonly supposed, and hence infection is spread far and wide without the slightest suspicion. How long the throat is capable of conveying the disease, I do not of course take on me to determine; but I think it extremely likely, that as long as ulcers remain, a power of infecting remains also. It frequently happened during the late epidemic, that patients were brought to the Dispensary who had not fully recovered from the attack of scarlatina; they made no complaint of their throats, and yet on looking into them, I often found ulcers still remaining in the tonsils, at the end of three and four weeks; and in two cases, this was even found in the sixth week; one of these was labouring under anasarca. No doubt the ulcers were of small size, but the subject does not appear to me the less important on this account. Chronic enlargement of the tonsils and an unnatural redness of the throat I have found to remain an indefinite time in some cases.

"*The Tongue.*—This organ presented commonly the following state:—for the first two days of the attack it was covered with a whitish coat, varying somewhat in thickness; it was of the usual size and moist. On the third day, it was observed to have become red at the point and edges; and then it was, if at all, that the papillæ became prominent, so as to put on the characteristic appearance. I believe the impression is general, that the tongue of scarlatina is always well marked; as far as my experience went during the late epidemic, this was not the case. Repeated instances came under my notice, where from first to last there was nothing about it to lead to the idea that the disease existed. As has been already stated, this was particularly the case for the first two and sometimes even three days. Exceptions to this remark did come under my notice, but they were exceptions to a general rule. About the time the disease had reached its height, on the fourth or fifth day, it was not uncommon to find that the tongue suddenly threw off all its fur, and it then presented itself both morbidly red and clean, being what is called the beef-steak tongue; in this state I have seen its edges and tip covered with clear vesicles, precisely like sudamina on the skin; it now, too, gave the impression of being abraded; and in some instances, was still more decidedly so, as very painful fissures formed on it. In some cases, after this cleaning process had been gone through, the tongue suddenly became dry, glazed, and pointed, or else a fur formed on it for the second time; either of these states was a sure precursor of coming mischief. In others, again, it gradually became clean as in other diseases, or else it assumed the appearance of the tongue in typhus fever, being covered with a black crust, as were also the teeth and lips with sordes. In particular instances, I met with the tongue, as it were, divided into two parts, one half being dry and shrunk, while the other was moist and of the usual size. This is a point worthy of notice, because I observed that this dry state of one half of the organ preceded in some cases the swelling of the parotid region of the same side; in others, it went hand in hand with it. It is right to observe, however, that I have seen the same state of the tongue in typhus fever, where no parotid swelling followed.

"*The Eye.*—In the late epidemic, this organ assumed appearances which were most important to pay attention to. At one period or other, I was able to confirm all the remarks made on it by the older authors; thus, in almost all the cases where there was delirium, the sclerotic was more or less injected; this, when in a high degree, is totally different from the suffusion of the eye met with in typhus fever; the vessels are much more numerous, and run a straighter course. This appearance I was able to see at a very early period, by uncovering that part of the eyeball usually covered by the lid, a point long since observed by Fothergill; this state was remarkable too, for seldom, if ever, causing the patient any annoyance from the light; it was always a serious symptom, and in fatal cases went on increasing till the period of death. In these, the eye was literally glazed for some hours before death. With it was usually coupled a contracted pupil, and this to an extraordinary degree; most have probably met the same in some cases of fever. There was another state of the pupil which particularly caught my attention, and which has not been sufficiently noticed, if indeed at all. I mean where it was in constant motion; in the cases I allude to, it was incessantly flickering back and forwards, and this without any reference to the quantity of light falling on it; the iris, as it were, gave the impression that it was in a state of nervous tremor, sharing in this respect with the nervous system in the same patients. I have not seen it when the eye was much injected. It was ever a serious symptom. In those instances where the disease either did not cause convulsions, or where they were about to occur, squinting often took place, and also a rapid oscillatory movement of the whole eyeball. It should be stated that in a few instances (four or five) which came under my notice, and where there were violent head symptoms, the eye was not injected at all. It is also worthy of remark, that in those cases where coma ensued, (and they were common enough,) the pupil was rather contracted than otherwise: it did not in fact give evidence of serous effusion taking place into the brain, as from the other symptoms might have been expected, and as occurs in the last stage of hydrocephalus. Connected with the eye, or, more correctly, with the face, I may state that swelling of the entire features was by no means uncommon: it was most evident at the onset of the attack, and in general showed a severe form of disease. The hands, too, were often swelled at this period.

" *The Pulse.*—As a general rule through the epidemic, the more rapid the pulse the more serious was the case, and the number of instances in which the pulse rose very high was, in proportion to those attacked, very great. To the first part of this remark, however, there were some very remarkable exceptions: thus, in some, who by the way were all females, the pulse kept up as high as 140 for three or four days, and yet they ultimately did well: while in others, it never ranged above 108 till the last day of life, and then only within three or four hours of death. Where there was nothing to complicate the case, I observed the pulse went through a series of phases, which it appears to me important to recognise, as they bore directly on the question of treatment; they are such indeed as one might be led to expect, though probably they have not been sufficiently noted. During the stage of collapse, the pulse was weak and indistinct; but in from eight to twelve hours it had again developed itself, and was then found ranging close to 120. Now, in the class of cases I allude to, while its beat was what has been just stated, or, at the very outside, 130, it was very remarkable how steadily it declined in strength from this period, till about the fourth day, when (supposing the patient did well) it again began to improve in tone and vigour, and then it was that its frequency lessened. Of course, in those cases where the pulse became more rapid, it also became weaker; but I am speaking of cases where its range did not vary six beats during the height of the attack, and yet its strength varied as I have stated. In those instances where the disease was more like a plague than scarlatina, that is, where there was little if any reaction, it at times happened that no pulse could be felt at the wrist for several hours before death; and even in a vessel like the carotid artery, it was more an undulation than a distinct pulse. Like what one meets with occasionally in other diseases, also came under my notice in some of the cases of scarlatina. I mean instances where from first to last the pulse did not exceed 80. As showing also the rapid progress of the disease, it may be mentioned that I have seen cases at the very onset, where the pulse was not above the natural standard, and yet at the end of six hours it had risen to 112.

" *Eruption.*—This prominent symptom of the disease received, of course, a good deal of attention, and presented many varieties. In its most intense form, it was in one continuous sheet of redness over the whole surface,—a point which has been particularly noticed by Dr Graves. In other cases, it presented itself in great patches of a very bright colour, as large as one's hand would cover, but which were entirely separate one from the other. In both these forms, I met with instances where spots of purpura appeared subsequent to the general eruption: they were well defined—the size of the head of a large pin, and were most commonly seen in the inguinal regions: they were always on the red portion of the skin. The following way in which the eruption showed itself is well worthy of notice, because it ever went hand in hand with a very severe form of the disease. A case would occur in which the eruption of the common character had come fully out: it might or might not be favourable, but on the following day an additional crop would make its appearance: this was usually of a brighter colour, and much better defined than the first; and what was curious about it was, that this last eruption might disappear again, leaving the skin only covered with the first. Something analogous to this came under my notice on the hands and feet: thus, at a time when the eruption was fully developed, it was not uncommon to see the extremities become perfectly livid, and again resume their natural appearance at the end of thirty-six or forty-eight hours. The appearance of a second crop of eruption came so often under my notice, that I was in the habit of looking expressly for it. I have seen precisely the same thing occur in some cases of petechial fever; and while alluding to this I may observe, that in very many cases the eruption of the epidemic could not by possibility be distinguished from the petechiæ of typhus fever. Another form of eruption, which was often mixed up with the common one, was the miliary: it is alluded to by many of the older authors: in the cases I saw, it confined itself almost entirely to the lower part of the neck and front of the chest and hands; and, on close examination, was found to be owing to a vast number of minute vesicles filled with an opaque and milky fluid: it was met with three or four times in the groins. I do not recollect meeting this sort of eruption in any fatal cases. It prevailed more at one period of the epidemic than another, more particularly in the cases which I saw under the care of the late Dr John Crampton. Besides these miliary vesicles, which were of very small size, I saw one case where vesicles as large as a pea and surrounded by redness formed on the extremities: the common eruption of the disease was in this instance very partial. There was still another distinct form of eruption, which, however, I met with but rarely. It was precisely like the mark which the sting of a nettle produces, and was scattered here and there over the body.

"The extent of surface occupied by the eruption presented every variety, from the one continuous sheet of redness already spoken of, to the cases where there was literally none. Between these two extremes, the following came under my notice. Cases in which the eruption confined itself exclusively to the upper half of the body, including the face and scalp: others, again, where it was only to be seen about the flexures of the joints,—as the elbows and knees, or it might be, the wrists and upper surface of the feet. It has been already stated, that in many instances nothing but large dark petechiæ were visible about the clavicles and inguinal regions, often running down the inner side of the lower limbs. Sometimes there was nothing in the shape of eruption but lividity of the hands, feet, and depending portions of the trunk. In many cases, where there was very little, the skin of the hands,—particularly where the nails join it,—assumed a very peculiar red and shining aspect, and this without any swelling. These were all severe cases.

"The eruption often flitted about in a remarkable way. The following was not an uncommon sort of case to meet with:—A child, æt. two years, was attacked with sore throat and very high fever: a warm bath was ordered, and half an hour after its use, patches of a bright red colour (three inches long by one and a half broad) appeared on the calf of each leg, and the corresponding portion of either arm. In the course of three hours these had all disappeared, but again became visible before the disease terminated in death, as it did too often in these cases.

"The period at which the eruption came out varied a good deal. In the great majority of cases, there was at least some appearance of it within the first twenty-four hours: sometimes it was to be found at the very onset of the attack, while at other times, two, three, and even four days elapsed before it became visible. This last case came under my notice only once.

"In the greater number of cases, the eruption occupied a period of from three to five days. No instance came under my notice of any eruption appearing subsequent to this period; cases of this sort have, however, been detailed by authors; among others, by Willan. The eruption I have seen at times remain as late as the seventh day. When it was on the decline, the whole surface assumed a very peculiar brown colour, much darker than the original eruption, and which, to a person seeing it for the first time, was very likely indeed to make the case be considered a serious one, when in reality it was not so. I was never able to trace any necessary connection between the extent or intensity of the eruption and the subsequent desquamation. I can only say, that I met some cases where extensive desquamation was almost the first thing to point out the disease under which the patient had been labouring; while in others, who had barely escaped with their lives, nothing of the sort took place. The process in some instances occupied a month; that is, it was repeated so often as to fill up this period.

"In alluding to cases of scarlatina, where there was no eruption whatever, I, of course, exclude adults, who were merely affected with the sore throat from children in the house. Instances, however, did, I know, occur in children and young persons, where there was every reason to have had eruption, and yet none made its appearance. One such came under my own notice. I was brought to a wretched room, where a mother and her daughter lay in the same bed, both seriously ill of scarlatina. A child, aged two years, was lying in a cradle: on looking more closely at it, I found it was in a state of profound coma, which was broken every now and then by convulsive fits of one side of the body. The father, who seemed an intelligent man, assured me the child had been quite well the previous day, and that there had been no appearance of any eruption: neither was there any when I saw it. I would most probably have set down this case to some other disease than scarlatina, had it not been that I found the parotid regions very much swelled, precisely the same as in other cases where there was no doubt of the nature of the disease. It may be mentioned, that cases of this sort were met with by others, where there was not the slightest suspicion of what the nature of the disease really was, and where one, and even two children, were so carried off: the obscurity, however, which hung over them was cleared up, when a third child in the same family was attacked with all the symptoms of scarlatina in a well marked form. The *possibility* of such cases as these being met with should be borne in mind, for otherwise very serious mistakes might occur. In all these instances, the fever was of the most formidable nature from the very onset of the attack, and the child was carried off in an incredibly short time.

"*Age of Patient.*—In my own experience, the disease was met with at every age between seventeen months and forty-one years. It has often been stated by others, and the fact is certainly a very curious one, that children under sixteen months are seldom if ever attacked with scarlatina, and I believe this is more certainly the case, if the children be suckled for a longer period than what is natural. In this city, the children of the poor are seldom weaned sooner than from fifteen to twenty months. It can scarcely be supposed that the period of infancy is insusceptible of the poison; and the only possible reason which strikes me, as being in part capable of explaining the fact, is that the child is kept so much at the breast, that it cannot inhale the poison of the disease, and that as it cannot yet run about and be in this way in contact with other children, it may so escape. One child only, while still at the breast, have I seen labouring under scarlatina: there was nothing remarkable about the case, except that three adults in the same house appeared to take sore throat from it, the mother being one. The disease repeatedly came under my notice in persons between thirty and forty years of age; and in two instances, the age was above forty. The effects of contagion were but too often seen, and very rarely indeed was but one member of the family alone attacked. In the instance, however, before alluded to, of the young lady at the boarding school, who was found with the disease fully out on her, without any premonitory symptoms, no other individual in the house was affected. The most remarkable case connected with contagion, which came under notice during the epidemic, was the following. I am indebted to the kindness of Dr John Ferguson for being able to give the details. One of the deputy nurses in Sir Patrick Dun's hospital was turning a patient affected with scarlatina in the bed, when she was suddenly seized with what she described as a bad smell and some sickness of stomach: from this moment she showed the symptoms of fever, which persisted for ten days, and then declined: the curious point about the case, however, was this,—that no symptom whatever of scarlatina appeared: I examined the throat several times, but it remained healthy. The patient had had scarlatina before. As far as one case goes, it shows that the poison of scarlet fever may develope simple fever in a healthy individual who has gone through scarlatina before. It also shows strongly the protective power of the disease against a second attack; and I may mention here, that no instance of secondary scarlatina has come within my experience. It was from this same hospital-patient that a medical friend took sore throat, which has been before spoken of. The impression is strong in my mind, though there be no positive proof of it, that certain cases of scarlatina and other contagious diseases are much more capable of communicating contagion than others of the same class.

"*Vomiting and Bowel Complaint.*—These were among the most prominent symptoms of the whole epidemic. Very few indeed were the serious cases, in which one or other or both of these did not make their appearance at some period of the disease: at times, ushering in the attack; and again, appearing on the last day of life. The matter thrown up was most commonly bilious and of a light yellow colour, the quantity being very great: it was sometimes, however, of a greenish colour, even approaching black; and it was of importance to make this distinction, for in my experience these latter cases were always more severe than the former. A similar remark applied to the discharges from the bowels: the more they differed from what was natural, as a general rule, the more serious the case was. The discharges were often tinged with blood, while in some few, it was in such quantity as to constitute a hæmorrhage. These last were all most serious cases.

"*Neuralgic Pains.*—These, including headach, were frequently prominent symptoms of the epidemic. They were chiefly referred to the small of the back and the lower limbs, were often of a rheumatic character, and were complained of more by adults than by children. The suffering from them was at times very great. They commonly ushered in the attack, while again they were only complained of, previous to some serious sequela making its appearance. On this latter account they required particular attention.

"*Type of the Fever.*—Taken as a whole, the fever divided itself into two great classes, one of which might be termed the irritative, and the other the typhoid. Any exceptions to this rule were cases in which the fever was of the inflammatory type; but even these were very rarely indeed of a true sthenic nature. In many cases, the fever was irritative all through the disease; in others, the commencement of the attack was of this kind of fever, subsequently however, becoming typhoid. By irritative fever, I mean where the pulse ranged from 120 to 140; where it was very easily excited, as by the movements of the patient; where its beat was quick under the finger; and where, though it appeared full, the mildest antiphlogistic treatment was at once capable of affecting it; where the tongue continued moist, and the gums and lips without sordes; where all medicines produced an undue effect, as for instance, an emollient enema causing a severe diarrhœa; and where the sensibility of the patient, both as to being touched and as to temperature, was exceedingly great. It was truly an irritable fever, as was indeed also proved by the effects of treatment, and was distinguished from the typhoid, by the different state of the mouth,—by the absence of marked prostration and nervous symptoms, as subsultus, and by there being nothing of stupor present." Pp. 31–61.

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Lectures on the Theory and Practice of Midwifery. By Robert Lee, M.D., F.R.S., &c. 8vo. pp. 559. London, 1844.

This work contains forty-four lectures, delivered by Dr Lee, in St George's Hospital, London, during the session 1842–3. They were originally reported in the *London Medical Gazette*, and have now been revised and reprinted, as the author informs us, in accordance with a strongly expressed desire on the part of many practitioners and students to possess them in a separate form. That he has cordially responded to this desire is to us no matter of regret, not that we consider a work of the kind imperatively wanted, but because we are glad to have collected together, in one entire work, the many valuable contributions to the science and practice of midwifery, which Dr Lee has made, in an extensive range of observation, during a practice of many years, and which have hitherto been scattered among the several medical periodicals.

The nature of these lectures, including, as they do, such a variety of topics, prevents us giving a lengthened analysis of the several subjects discussed; and, therefore, we will chiefly limit our observations to a brief exposition of the author's practice and opinions, instead of burthening our commentary by lengthened details of our own.

The first 150 pages are devoted to anatomy—230 to the subject of parturition—and 110 to puerperal diseases, of which no less than 100 are occupied with uterine inflammations alone.

Passing over the first three lectures, which are devoted to a description of the anatomy and pathology of the bones, the articulations of the pelvis, and the anatomy of the unimpregnated uterus and its appendages, we come to lecture fourth, which treats of menstruation. A considerable portion of this discourse is taken up with a review of the statements of those writers who maintain that females commence menstruating earlier in hot than in temperate and very cold countries. This view has been adopted by almost every physiologist who has written upon the subject, but Dr Lee is disposed to agree with Mr Roberton of Manchester, who has published several very elaborate papers, which contain numerous facts tending to prove that in this country, the natural period of puberty in women occurs in a much more extended range of ages, and is more equally distributed throughout that range than authors have alleged; and that in other countries, the parallel attempted to be established between the process of vegetation and the female constitution, does not hold good.[1] Dr Lee, however, considers it right to state that "some gentlemen who have resided many years in the East Indies, the Brazils, and on the coast of Africa, with whom he has conversed on the subject, and who have had good opportunities for observation, are of a contrary opinion, and still firmly believe that the period of puberty is earlier between the tropics than in Europe, but as none of them investigated the subject with the requisite care, he thinks their evidence can have little weight when contrasted with the great mass of facts adduced to support the opposite view." (See page 38). In corroboration of the opinions entertained by Dr Lee, we may mention that we have for some years past instituted careful researches into the menstrual condition of girls occupied for twelve hours every day in the heated apartments of mills and factories, which have satisfied us, that there is no foundation in fact for the assertion, that the period of the first menstruation in them is earlier than in others occupied in out-door employments. The important observations of Brierre de Boismont and Raciborski on this and other points are not once alluded to by Dr Lee. The author next goes on to combat some of the generally acknowledged theories of menstruation, and concludes by stating, that "the determination of blood to the uterine system, which takes place every month, and all the phenomena of menstruation, depend upon the ovaria; and that at each period a Graafian vesicle bursts, and its contents escape." (See page 40.) In support of this statement he refers to cases, in which, from the absence of the ovaria, whether congenital or otherwise, no attempt at the menstrual evacuation occurred, contrasting them with others wherein these organs existed, and the uterus was wanting, and yet in which violent pains, and all the other symptoms of menstruation, except the actual discharge, manifested themselves every month. The most convincing proofs adduced by Dr Lee, of the phenomena of menstruation being dependant upon the causes specified, are to be found in the recital of six cases in which he was afforded an opportunity of seeing the parts of females who had died whilst menstruating. The first of these was seen so far back as 1831. We are thus particular in the date because certain Frenchmen are greedily contending for priority in a discovery which is more justly due to Drs Power and Girdwood.[1] In all the six cases enumerated by Dr Lee, a ruptured opening in the peritoneal coat of one of the ovaria was observed, which led either to a Graafian vesicle on the point of bursting, or to a cavity which lately held the contents of one. Since the publication of these observations, Gendrin, Negrier, Jones, and others, have witnessed similar appearances. Indeed so far back as the year 1797, Dr Cruikshanks observed the same phenomenon, but, as Dr Lee remarks, there is no observation made in Dr Cruikshanks' paper from which it can be inferred that he supposed all the circumstances of menstruation to depend upon the state of the ovaria, and therefore, although we must give Cruikshanks the merit of being the first who observed the fact, we cannot withhold from Drs Girdwood and Power the credit of being the first who propounded the theory of menstruation being dependant upon the periodical development, maturation, and bursting of a vesicle in the ovary, whereby a sanguineous flux is determined to the genital organs. We are of opinion that the facts adduced by Dr Lee in support of this theory, if sanctioned by the observations and concurring testimony of other equally respectable authorities, will not only render it the most plausible and satisfactory theory which has hitherto been brought forward on the subject, but will go far to render it incontrovertible.

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[1] MONTHLY JOURNAL for 1842, pp. 712, and 767.

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[1] Vide Lancet, vol. i. for 1842–3, p. 825.

Lecture 5th is occupied with an interesting description of the mode observed by nature in the formation of corpora lutea, which description differs from that given by Baer, Montgomery, Paterson, and Barry, the first of whom contends, that these bodies are formed from a thickening of the inner membrane of the Graafian vesicle; the two succeeding maintain, that they are new formations between its inner and outer membrane; and the latter, that they are produced hy a development of the outer layer alone. Dr Lee, on the contrary, considers them to be formed from a deposition of yellow granular matter, in immediate contact with the stroma of the ovary, and, of course, outside both coats of the vesicle. To use his own language, "the corpus luteum is nothing but the empty Graafian vesicle, which contained the ovum, surrounded by a layer of yellow granular substance, which is formed subsequently to impregnation. The two coats of the Graafian vesicle are always enclosed within the yellow substance, and they can be separated from one another, and their existence as two distinct membranes as clearly demonstrated as the amnion and the chorion," (see page 48). This language is certainly strong, but we give the description without comment, as our own observations have not been sufficiently minute to enable us either to confirm or refute it.

The next lecture, or rather lectures, we would notice, contain an ample discussion on the mode of origin of the membrana decidua: in these, the author strongly condemns the opinion commonly entertained, that this membrane is formed in the uterine cavity prior to the ovum reaching it. This opinion rests mainly upon the statements of those who maintain, that the decidua is always found lining the uterus, even in cases of extra-uterine conception. Dr Lee, however, relates two cases, and refers to others, where no such structure was found. In one of the former he admits, that a layer of yellowish-white substance, resembling common adipose matter or lard, was observed, but which bore no resemblance whatever to deciduous membrane. From the facts Dr Lee has brought forward, we are inclined to conclude with him, "that the decidua is not invariably, if ever, formed within the uterus, in cases of extra-uterine gestation, and that if it were so, further evidence would still be required, to prove, that an organised membrane always lines the uterus, like a shut sac before the ovum enters its cavity after common impregnation," (see page 62.) Our readers will now be prepared for the only rational conclusion which Dr Lee deems deducible from these premises, viz., that the decidua reflexa cannot be formed, as is generally supposed, by a mechanical pushing forwards of the decidua vera, when the ovum reaches the uterine extremity of the Fallopian tube. After describlng the decidua, Dr Lee proposes an entirely new doctrine, regarding the circulation in the appendages of the early ovum. It is evidently grounded on the curious fallacy, that he has mistaken for blood-vessels, the mucous ducts shown by Sharpey, Montgomery, and others, to exist in the interior of the decidua vera. Had the author been aware of Dr Sharpey's beautiful investigations into the structure of the decidua, he could not have fallen into this strange error.

Lectures 13th and 14th are devoted to the consideration of the placenta, and contain a very precise and excellent account of its structure. In lecture 14th, Dr Lee candidly confesses that his paper in the *Philosophical Transactions* of 1832, gives an entirely erroneous account of the utero-placental circulation.

The eleventh lecture contains a description of the nerves of the uterus. This is a subject which, for some time past, has occupied a considerable portion of the author's attention, and has excited no little public discussion. Some of the most eminent physiologists of the day have examined Dr Lee's dissections, and have borne testimony to their accuracy. Few, therefore, we are inclined to think, can now hesitate in awarding to him the honour of having, (with Moreau, &c.,) displayed the nervous system of the uterus—in showing its continuity with the spermatic, hypogastric, and spinal nerves, and in demonstrating the important fact, "that there are many ganglia formed on the uterine nerves, and on those of the vagina and bladder, which enlarge with the coats, blood-vessels, nerves, and absorbents of the uterus, during pregnancy, and which return after parturition to their original condition before conception took place." (See page 107.)

Our limits oblige us thus briefly to pass over these and other subjects, treated in an equally graphic and scientific manner, until we come to lecture twenty-first, which we think contains matter of greater practical import. The author here adopts Denman's classification, which we agree with him in thinking the very best for all practical purposes which has yet been proposed. He then goes on to describe the symptoms and treatment of natural labour, and the practice that ought to be observed after delivery has taken place. These descriptions are so perspicuous and concise, and the practical rules so sensible and comprehensive, that we will merely commend them to our readers, as being among the best extant. In the succeeding lecture, the subject of difficult and protracted labours is treated with very considerable ability. The causes of protraction are reduced to seven. We are not of those who would multiply causes unnecessarily; but we cannot help thinking there are some omitted by the author, which occur with equal, if not greater frequency, than others which he has assigned; for example, under the head of feeble, irregular, or partial uterine action, no notice is taken of that condition which has been so ably described by Dr Wilson of Glasgow,[1] in the third volume of the *Glasgow Medical Journal*, and which Dr Rigby, in his admirable contribution to Tweedie's *Library of Medicine*, denominates "stricture of the uterus." This condition has also been recognised by Dr Burns, as a *very frequent* cause of protracted labour. The following case from Dr Wilson's paper demonstrates the existence, and establishes the importance of being acquainted with such a state of the uterus:—"Mrs T. had been in severe labour for two days, at length the head reached the perineum, where it remained for several hours; the pains were severe and irregular. The surgeon in attendance having left the house for a little, the woman was suddenly seized, during his absence, with a violent pain, and expired in a few minutes without any convulsion. On the return of the surgeon, the head was found to have descended a little during the last pain. No attempts were made to extract the child. The uterus was supposed, in this case, to have given way; but on inspecting the body, the uterus was found quite entire, and there were no appearances to account for the death, except a very firm contraction of the uterus, about its middle, which grasped the body of the child very powerfully. The head of the child had been expelled from the uterus, and the neck was firmly grasped by the os uteri, thus forming a double contraction, which had the woman survived, might have resisted for a long time the process of expulsion." The symptoms of this condition, as related by Rigby, are such as we have on several occasions recognised. He says,—"In cases of this kind we find, that although the uterus contracts, the child does not advance, but rather retracts, during a pain; the contractions are never general, but partial, and even where they are general, the fundus does not attain its due preponderance over the os uteri, so that the one contracts as much as the other does; in severe cases also, the uterus continues in a state of spasmodic action during the intervals of the pains: this is frequently accompanied with a painful and harassing sensation of tension and stretching, very different to that produced by the action of regular pains upon the os uteri; and, in the worst cases, we occasionally observe a peculiar state of the brain, which manifests itself by attacks of insensibility, faintings, or even convulsions." We repeat, that we have several times recognised the preceding symptoms depending evidently upon the cause specified, and have, moreover, derived advantage under such circumstances, from venesection, and from the administration of enematic opiates, and such other remedial measures as are usually resorted to for the removal of spasm; consequently, we are disappointed in not finding any notice taken by the learned author, of such a serious, and by no means obscure cause of protracted labour.

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[1] Referred to by Mr Stewart in his paper in this Number.

Regarding the employment of *secale cornutum*, in cases of feeble uterine action, we are glad to find Dr Lee's opinions and experience in perfect unison with our own. He says,—

> "As it is impossible to determine, in many cases, the precise cause of the difficulty in protracted labour—to be sure that the restrained uterine contractions do not depend on some unusual condition of the contents of the uterus, and that the life of the child may not be destroyed by its use, I have never ventured, either in public or private practice, except in cases of accidental uterine hæmorrhage, and retained placenta, to administer the ergot of rye to a woman in labour; and I am satisfied, that no individual under my care has suffered from the want of it." P. 235.

Such are exactly our own sentiments. We are strongly persuaded, that ergot has been, and still is too indiscriminately used, and that the amount of mischief caused by it is quite incalculable. We have seen cases in which the strictured condition of the uterus just alluded to, could not consistently be attributed to any other cause than the injudicious administration of this drug. We have also seen cases, in which its exhibition lessened the frequency of the mother's pulse, and produced vertigo and delirium, in addition to its pernicious influence upon the fœtus in utero; we say, pernicious influence, for we are by no means satisfied that the death of infants, so often noticed after the use of this drug, and causing it to be nicknamed the *pulvis ad mortem*, is solely attributable to the continuous and spasmodic uterine contractions sometimes excited by it. In one of our own cases we had reason to think that the child had suffered from its poisonous influence, although the action of the uterus had not been perceptibly increased.

Regarding protraction of the first stage of labour, the author is of opinion, that the rule laid down by Hamilton and Burns, for having it completed in a given time from the commencement of regular pains, is not in accordance with the indications of nature; yet he does not go the length of others in condemning all interference with the os uteri, under almost any circumstances:

> "If the first stage of labour, without rigidity of the os uteri, be greatly protracted, it is often of advantage to rupture the membranes, before it is fully dilated, to raise the head that the liquor amnii may entirely escape, and to make gentle pressure with the finger around the margin of the os uteri, during the pains, or to press up the anterior lip where it remains down between the head or symphisis pubis, and when the posterior lip has disappeared. Even in first labours where there has been danger of exhaustion, I have adopted this practice in some cases, with decided advantage." P. 235.

Our opinion of this practice is sufficiently expressed, by stating that we have frequently adopted it, and have never regretted so doing.

To return to the causes of protracted labour, from which we have just digressed, we would now notice that of malposition of the fœtal head. The most simple form of this is where the forehead is inclined towards the pubis. The author quotes the opinions of Smellie, Denman, Clark, Merriman, and Ramsbotham, on the treatment of such cases, and ends with his own in the following words: "I am disposed to believe, that it is best to leave them to the natural efforts, and to avoid all interference,—all attempts to change the position, while the pains continue regular, and the labour advances, however slowly. If exhaustion should take place, it will then become necessary to deliver artificially, in the manner which will afterwards be described," (page 256,) that is, with the forceps or perforator. In connection with this point, it appears strange to us that the author should have occupied so much space rehearsing so many all but obsolete opinions and modes of practice, and should at the same time have entirely omitted to mention the more modern and extremely valuable observations of Nægelè, Stoltz, Dubois, Murphy, and others, upon the mechanism of this kind of presentation. The great advancement which midwifery has made within the last fifty years, is assuredly principally due to the greater knowledge which has been acquired during that time, of the proper mechanism of the different forms of natural and morbid parturition. In no part of these lectures does Dr Lee exhibit an acquaintance with the new and more correct views that are being adopted in all the principal obstetric schools, both here and abroad, upon these matters. Believing, as we do, that the true doctrines of the mechanism of parturition are calculated to form in future the only sure basis for a scientific midwifery, we cannot but regard the want of them in Dr Lee's work as a grievous desideratum.

Take, as an illustration, the case in question—the mechanism and treatment of head presentations with the forehead inclined towards the pubes. Such presentations were, not many years ago, described as exceedingly rare; they are now acknowledged by all careful and competent observers, to be exceedingly common, so common, say some, as once in every four or five labours. Dr Lee speaks of the "exigencies of the case," and classes it amongst his protracted and difficult labours! Nægelè has shown that it requires no unusual proportions on the part of the mother and child, and usually proceeds without greater difficulty than, and quite as successfully as, cases in which the occiput presents towards the pubis. Dr Lee states, that if the head and pelvis are of the usual dimensions, in *most cases* of this presentation, the forehead emerges under the pubis: Nægelè and others, on the contrary, have fully demonstrated that in twenty-nine cases out of thirty, the head, in this form of labour, turns during its passage, so that the occiput emerges under the pubis. Dr Lee quotes the authorities of Smellie, Clarke, Burns, &c., for turning the head artificially in most cases of this kind; we now know that, in the majority of such cases, nature turns the head for us, and much more safely than the accoucheur. If forceps are required in this presentation, Dr Lee would seem to advise us to bring the forehead and face out under the symphysis pubis. We would certainly succeed often if we follow the more perfect midwifery of nature, and bring the occiput out under the symphysis pubis.

The next form of head malposition described, is that in which the face presents. Two varieties are specified, "the mouth may be either under the symphysis pubis, with the vertex occupying the hollow of the sacrum, or it may be situated close to the lower end of the sacrum and coccyx, with the vertex behind the symphysis pubis. The first of these positions is considered the most frequent and favourable, but the head, in a great proportion of cases, whether it be situated in this or in the second position, is expelled by the natural efforts, though a longer period than usual be required for the labour." (See page 257.) If it is to be inferred from this that the head of a child at the full time, of natural dimensions, can emerge from the outlet of a pelvis, with the forehead rising up behind the pubic symphysis, and the chin sweeping over the distended perineum, then we have no hesitation in stating that the thing is not only at variance with the observations of the most experienced accoucheurs, but that it is also physically impossible. No author, excepting Smellie, as far as we know, has ventured to assert that he had seen the face expelled from the pelvic outlet in any other way than with the chin under the pubis; and even in his case the child, as represented in his twenty-sixth plate, is evidently premature, and might consequently have been born in almost any position. If Dr Lee had reflected for a moment upon the measurements of the full grown fœtal head, from the summit to the base, and of the thorax from the sternum to the spine, and had contrasted these with the sacro-pubic diameter of the pelvic brim, in which both the former must, according to Smellie's delineation, be at one period of the labour engaged, he would not, in our opinion, have fallen into the error which he appears to have committed.

The practice in face cases affords a curious chapter in the history of midwifery. As in other parts of his lectures, Dr Lee here confines himself principally to the literature of the subject, so far as it is given in the notes collected in Dr Merriman's Synopsis. Some have considered artificial interference, in one form or another, indispensable in these presentations. Portal long ago showed it to be unnecessary; and since his time, Zellar, Boer, La Chapelle, Chevreuil, Collins, Caseaux, Rigby, &c., have confirmed his views. Our author writes in similar terms; he says,—

> "The head, in a great proportion of cases in which the face presents, passes through the pelvis without artificial assistance, and no unpleasant consequence is produced, except a swollen state of the child's face, from the long-continued pressure, but which soon disappears; and, again, my firm belief is, that the child would have a far better chance to be born alive, if the labour were left wholly to nature, and if the natural powers were inadequate, to extract it with the forceps," (see page 257).

Another cause of protracted labour described, is an anchylosed condition of the coccyx. This has been often mentioned as a cause, but we confess that our experience has never yet furnished us with an example. Dr Lee, however, relates one "in which the forehead of the child rested on the point of the sacrum and coccyx for many hours, and the head was indented by the sharp point of the coccyx, and the skin abraded. The birth was ultimately accomplished by the forceps," (see page 275).

Lectures 27th and 28th are devoted to a consideration of the forceps. Dr Lee states, that in every case he considers it necessary to ascertain exactly the position of the head, before passing the first blade of the forceps. In doing this he states, "I would recommend you to pass *all* the fingers completely over the side of the head;" and again, "pass the four fingers of the right hand completely over the side of the head and ears." We are ready to maintain, that no tyro, acquainted with the doctrines of the mechanism of parturition, and the modes of presentation of the head, should require to put the mother to such unnecessary agony and danger, as this strange recommendation implies. After this statement of Dr Lee, we cannot wonder, as we at first did, that he should use at the present day forceps "covered with leather," (p. 300), because, if all the fingers can be introduced, an instrument a quarter of an inch thick could be used. We think it superfluous to inquire whether such cases should be really forceps cases or not. Surely this is retrogression in practical midwifery! "The first principles," says Dr Lee, "of operative midwifery are not generally understood, and there is no other branch of surgery at the present time in such a rude condition," (p. 273). We cordially assent to the justice of Dr Lee's remark.

We have been astonished at nowhere finding Dr Lee taking advantage of auscultation, in relation to the diagnosis and management of morbid labours. We are sorry to find such an important adjunct totally disregarded. Most practitioners now know its great value in making them aware of the degree of danger which the child incurs during a tedious labour. Dr Lee seems to be conversant with the important fact, that if the fœtal pulsations become gradually more feeble, and, as he should have added, *slower*, the birth of the child ought to be hastened by the forceps, if there is no counter indication. Dr Lee seems occasionally to make himself assured of the strength and rate of the fœtal pulsations, not by applying his (stethoscope, as most other people do,) to the external surface of the abdomen, but by actually thrusting his fingers into the uterine cavity itself. Thus, after some remarks upon the exploded doctrine of the shortness of the umbilical cord hindering the birth of the child's head, he advises "two fingers, or the whole hand," to be passed up, in order to feel the cord surrounding the neck. "In a case," he adds, "of tedious labour which I lately saw, with Mr Russel of Broad Street, I declined at first employing the forceps, because the cord was around the neck, and was pulsating vigorously, and the mother was not exhausted; but after some hours, the pulsations in the cord had become extremely weak, and the child would probably have been destroyed in a short time had we not interfered. The blades of the forceps were easily applied, and the child was soon extracted alive and uninjured," (p. 247.)

We have not space for further remarks upon the causes of protracted labour, and therefore pass on to the end of lecture 29th, where will be found a highly interesting tabular view of 127 cases, in which the author performed the operation of craniotomy.[1] It shows at a glance the causes of the difficult labour, its duration, and the results to the mother. In addition to the great experience which this table shows Dr Lee to have had in perforating children's heads, (an operation which we do not wish to insinuate he has ever performed without just cause), it also shows the immense extent of his general obstetric experience; for in Britain, according to Dr Churchill, this operation is performed but once in every 219 cases; so that estimating our author's experience by such a standard, his cases should amount to the enormous number of 27,813. As these figures are startling in appearance, we are charitably inclined to conclude, that his metropolitan friends have such a high opinion of his perforating dexterity, that they call him in to all their craniotomy cases. We observe many other tables of a kind similar to the above scattered throughout the work; and these constitute not the least interesting and valuable portion of it. Their value would, however, have been much heightened, had Dr Lee given the sum total of his cases, so that his readers might have estimated the relative frequency with which he met with difficult and dangerous ones.

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[1] MONTHLY JOURNAL for 1843, p. 55. *Vide* Review of *Lee's Clinical Midwifery*, where cases illustrating this and other subjects are quoted.

This article having extended beyond our original intention, we are obliged to pass over preternatural and complex labours, and to confine our few remaining observations to one of the diseases of puerperal women, termed phlegmasia dolens. Upon this disease, Dr Lee has written largely; and, having adopted the opinion of the late Dr Davis, has propounded views which have been followed by the majority of the profession. In accordance with these views, he has taken it upon him to alter the name by which the disease is generally recognised, and to term it crural phlebitis; for he considers that he has demonstrated not only,—

> "That inflammation of the iliac and femoral veins gives rise to all the phenomena of phlegmasia dolens, but that in puerperal women it originates in the uterine branches of the hypogastric veins, and subsequently extends from them into the iliac and femoral trunks of the affected side." P. 526.

Now, though we are satisfied, from the cases and dissections brought forward by Dr Lee, that in the majority of instances, (and probably in all the fatal instances,) the veins are inflamed; yet, we think, that he should not have overlooked the fact, that there are many eminent practitioners of the present day, who consider the disease to be an affection of the lymphatic vessels, accompanied or not, as may be, with crural phlebitis. Dr Rigby, who advocates this theory, relates what he considers an undoubted case of the disease, wherein the veins were *not* inflamed; and he gives it as his decided opinion, "that in phlegmasia dolens the lymphatic circulation of the swollen limb has been obstructed by inflammation, or obliteration of the main lymphatic trunks leading from it. To call this disease crural phlebitis, because in a case where the crural vein has been inflamed, the inflammation has spread to the surrounding fascia, or cellular tissue, is manifestly incorrect, and tends to confound two diseases together which are of a very different character. From the situation of the crural vein, as it emerges upon the anterior and upper part of the thigh, and the cribriform appearance of the inner side of the femoral sheath and of the cellular tissue, which fills up the opening in the fascia lata at this part, owing to the numerous lymphatic trunks by which it is perforated, it would be nearly impossible that these structures should escape being inflamed whenever the attack of crural phlebitis is at all severe; and shows, that although, as we have stated, phlegmasia dolens may occur without crural phlebitis, it is very questionable whether crural phlebitis can exist to any extent without phlegmasia dolens." Seeing that such opinions as the preceding are entertained by several high authorities, and that they are to a certain extent supported by the fact, that phlebitis is a very fatal disease, while phlegmasia dolens is not; we are of opinion that the change in nomenclature which Dr Lee wishes to introduce, is, to say the least of it, impolitic, if not premature.

We might point out some redundancies throughout this work, which could have been advantageously omitted, and object to the novel use of words to express ideas and conditions at variance with their recognised application in medical literature; but we do not wish to appear hypercritical in matters of so little practical moment; on the contrary, our object has been to give to our readers a fair report of, and commentary on, the views and experience of the author. These, generally speaking, are much in accordance with our own; and from the clinical character of the work, and its including a vast amount of illustrative cases, we think it fully as well adapted for a book of reference to the practitioner, as for an elementary work on midwifery for the student.

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Manual of Diseases of the Skin. From the French of MM. CAZENAVE AND SCHEDEL, *with Notes and Additions by* THOMAS H. BURGESS, M.D., *Surgeon to the Blenheim Street Dispensary for Diseases of the Skin, &c.* 12mo, pp. 320. London, 1842.

We recommended this work to the favourable notice of our readers upon its first appearance in English, and we would now, in transferring to our pages some of the valuable information which it contains, heartily renew our praises. Taking the volume all in all, it is the best manual of skin diseases with which we are acquainted, not only in our own, but in any other language. Dr Burgess has ably executed his part of the performance—the version being always smooth and accurate, and his additions to the text, short and judicious. The whole of the article on "Glanders and Farcy" is well supplied by the editor. With this exception, the supplementary portions are very brief, and do not call for special notice.

The method of classification adopted by Cazenave and Schedel is that of Willan, as modified and improved by Biett, the celebrated physician of St Louis, of whose doctrines and practice it may be remarked, that the work before us is the only record. The natural history arrangement of skin diseases has, we admit, its importance in systematic Pathology,[1] but for an initiatory text-book, or as a guide in practice, that subjoined is by far the most suitable. The diseases are arranged according to their elementary characters; some which could not be comprised within the eight principal orders, being arranged under distinct heads.

"Cutaneous Diseases.

"Order I. *Exanthemata.*—Erythema; erysipelas; roseola; rubeola; scarlatina; urticaria.

"Order II. *Vesiculæ.*—Miliaria; varicella; eczema; herpes; scabies.

"Order III. *Bullæ.*—Pemphigus; rupia.

"Order IV. *Pustulæ.*—Variola; vaccinia; ectyma; impetigo; acne; mentagra; porrigo; equina or glanders.

"Order V. *Papulæ.*—Lichen; prurigo.

"Order VI. *Squamæ.*—Lepra; psoriasis; pytiriasis; icthyosis.

"Order VII. *Tubercula.*—Elephantiasis Grecorum; molluscum; frambæsia.

"Order VIII. *Maculæ.*—Colorationes. Fuscedo cutis; ephelides; nævi.—Decolorationes. Albinismus; vitiligo.

"Order IX. Lupus.

"Order X. Pellagra.

"Order XI. Malum Alepporum.

"Order XII. Syphilida.

"Order XIII. Purpura.

"Order XIV. Elephantiasis Arabica.

"Order XV. Cheloidea.

"From the preceding table it may be seen that cutaneous disorders are capable of being reduced to a certain number of elementary lesions; the latter exist constantly in all eruptions classed under each order, and may be discovered at all periods of the disease, if we search for them attentively. Each elementary lesion has its special character, each possesses, as a symptom, its peculiar value.

"Exanthemata.—This term is applied to patches of a reddish colour, varying in intensity, size, and form, disappearing under pressure of the finger, and terminating in delitescense, resolution, or desquamation.

"Vesiculæ.—A vesicle is a slight elevation of the epidermis, containing a serous and transparent fluid, which, however, is occasionally opaque or seropurulent. The vesicle may terminate in absorption of the fluid, slight desquamation, excoriation, or the formation of small, thin incrustations.

"Bullæ.—Generally speaking, bullæ differ from vesiculæ merely in size; they are small superficial tumours, caused by effusion of serum underneath the epidermis.

"Pustulæ.—This term should be strictly confined to circumscribed collections of pus on the surface of an inflamed mucous membrane. The contents of the pustules, in drying, produce scabs, and they may be followed by chronic induration, inflammation of the mucous surfaces, or excoriation.

"Papulæ.—These are small elevations, which are solid, resisting, and never contain any trace of fluid; they may, likewise, give rise to ulceration, but generally terminate in resolution or furfuraceous desquamation.

"Squamæ.—The term squamæ is applied to the scales of hardened, dry, friable, and degenerated epidermis, which cover minute papular elevations of the skin; they are easily detached, and may be reproduced for an infinite length of time by successive desquamations.

"Tubercula.—These are small hard tumours, more or less prominent, circumscribed in form, and persistent; they may become ulcerated at the summit, or suppurate partially. In this definition we consider tubercles as elementary lesions, and not those which appear after abscesses.

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[1] This arrangement is adopted by Mr Erasmus Wilson, in his recently published and excellent treatise on diseases of the skin.

"MACULÆ are permanent changes of colour in certain points of the skin, or in the whole of the cutaneous envelope, but unattended with any general derangement of the health.

"Under these eight orders we have arranged the great majority of cutaneous diseases; we have, however, made a few changes in the classification of the species. Thus, in our opinion, *pemphigus and pompholix* constitute one and the same disease; *acne* is clearly not a tubercular affection, so we have placed it under the pustulæ, to which it really belongs. *Erysipelas* is an exanthematous disease, and *scabies* is a vesicular one; we have, therefore, transposed them to their respective orders; the diseases arranged under the seven last orders do not admit of being classed with any of the rest, and hence, we have thought it right to consider them apart."

Our space will not permit us to give a critical analysis of the work; but we hope that a selection from the Formulary of Biett, unaccompanied by remarks, will be acceptable to many of our readers.

"INTERNAL REMEDIES.

"Subcarbonate of Soda, half, to one drachm; barley-water, one pint. *Dose.*—Four glasses daily. *Use.*—Lichen; prurigo; chronic diseases with itching.

"*Decoction of dulcamara.*—Dulcamara, half an ounce; water, a pint and a half. Boil down to two-thirds. The quantity of the remedy may be increased to one ounce, or an ounce and a half. *Dose.*—Half a glass at first; then a glass, morning and evening. *Use.*—Lepra vulgaris; chronic diseases.

"*Decoction of orma.*—Orma pyramidalis, four ounces; water, four pints; boil down to a half. *Dose.*—Two to four glasses a-day. *Use.*—Scaly diseases.

"Syrup of fumaria, twelve ounces; syrup of viola tricolor, four ounces; bisulphate of soda, two drachms. Mix. [M. Biett often employed this mixture in cases of eczema, lichen, and several chronic diseases of the skin.] *Dose.*—Two spoonfuls a-day.

"Syrup of fumaria, a pint; bicarbonate of soda, three drachms. *Dose.*—Two tea-spoonfuls: one before breakfast; the other at bed-time. *Use.*—Eczema; lichen; prurigo.

"*Pearson's solution.*—Arsenite of soda, four grains; water, four ounces. *Dose.*—From twelve drops to a drachm or more. *Use.*—Most chronic diseases of the skin; eczema, impetigo, lichen; but chiefly in squamous diseases, lepra, psoriasis, &c.

"*Fowler's solution.*—Arsenious acid, and carbonate of potass, of each seventy-eight grains; distilled water, a pint; alcohol, half an ounce. *Use.*—The same as Pearson's solution. *Dose.*—Three or four drops, gradually increased to twelve or fifteen.

"*M. Biett's solution.*—Arsenite of ammonia, four grains; water, four ounces. *Use.*—Same as above. *Dose.*—Same as Pearson's solution.

"*Larrey's syrup.*—Sudorific syrup, one pint; bichloride of mercury, hydrochlorate of ammonia, and extract of opium, of each five grains; Hoffmann's liquor, half a drachm. *Dose.*—Half an ounce to two ounces. *Use.*—Syphilitic eruptions. Syrup of mezereon, two ounces; balsam of tolu, four ounces; subcarbonate of ammonia, half an ounce. *Dose.*—A spoonful morning and evening. *Use.*—Constitutional syphilis.

"*Van Swieten's liquor.*—Bichloride of mercury, eighteen grains; water, twenty-nine ounces; alcohol, three ounces. *Dose.*—A tea-spoonful daily in a glass of decoction of sarsaparilla. Each ounce contains a little more than half a grain. *Use.*—Secondary syphilis.

"POWDERS. PILLS.

"Sublimed sulphur, magnesia, of each half an ounce. Make eighteen packets. *Dose.*—One daily. *Use.*—Chronic eczema; scaly diseases.

"Proto-ioduret of mercury, twelve grains; extract of lettuce, two scruples. Make forty-eight pills. *Dose.*—One to four. *Use.*—Syphilis. Or,

"Proto-ioduret of mercury, half a drachm; extract of guaiacum, one drachm; extract of lettuce, two scruples; syrup of sarsaparilla, q. s. Divide into seventy-two pills. *Dose.*—One, and then two daily. *Use.*—Syphilis.

"*Bichloride of mercury.*—Extract of aconite, six grains; bichloride of mercury, two grains; marshmallows powder, eight grains. Make eight pills. *Dose.*—One to four. *Use.*—Syphilis.

"*Deuto-ioduret of mercury.*—Deuto-ioduret of mercury, six grains; marshmallows powder, half a drachm. Make thirty-six pills. *Use.*—The same. *Dose.*—Two or three a-day.

"*M. Sédillot's pills.*—Strong mercurial ointment, one drachm; soap, two scruples; mallows powder, one scruple. Make thirty-six pills. *Dose.*—Two or three daily. *Use.*—The same.

"*M. Biett's pills.*—Mercurial ointment, powdered sarsaparilla, of each a drachm. Make forty-eight pills. *Use.*—The same. *Dose.*—One to four daily. Or,

"Phosphate of mercury, half a drachm; extract of fumaria, one drachm. Make forty-eight pills. *Dose.*—One or two a-day. *Use.*—As before.

"*Aconite pills.*—Extract of aconite, half a drachm; mallows powder, two scruples. Make forty-eight pills. *Dose.*—One or two morning and evening. *Use.*—Syphilitic eruptions; nocturnal pains.

"*Asiatic pills.*—Arsenious acid, one grain; black pepper, powdered, twelve grains; gum arabic, two grains; water, q. s. Make twelve pills. *Dose.*—One or two a-day.

"*Arsenite of iron. M. Biett.*—Arsenite of iron, three grains; extract of hop, one drachm; mallows powder, half a drachm; orange flower syrup, q. s. Make forty-eight pills; each contains the one-sixteenth of a grain. *Dose.*—One daily. *Use.*—The two preceding formulæ are chiefly used in cases of chronic eczema and lichen; in the scaly diseases, lepra, lupus, and psoriasis.

"*Arsenite of soda. M. Biett.*—Extract of aconite, one scruple; arsenite of soda, two grains. Make twenty-four pills. *Dose.*—One or two daily. *Use.*—As above.

"*Hydrochlorate of iron.*—Hydrochlorate of iron, twelve grains; gentian, in powder, twenty-four grains. Make twelve pills. *Dose.*—One to four daily. *Use.*—Employed with success by M. Biett in scrofulous eruptions.

"*Sulphate of iron. M. Biett.*—Sulphate of iron, one scruple; powdered mallows, twelve grains; syrup, q. s. Make twelve pills. *Use and dose* the same." Pp. 308—311.

PART THIRD.

PERISCOPE.

PRACTICE OF PHYSIC AND PATHOLOGY.

ON CEREBRAL AUSCULTATION. BY S. S. WHITNEY, M.D., of Newton, Mass.

IT is true, "that there are no physical signs applicable to the brain," such as are dependent on a cause similar to that of the act of inspiration and expiration of the lungs, or perhaps of the systole and diastole of the heart, while in their healthy state; for the brain, in its normal condition, can of itself develope no physical phenomena. The thing is incompatible with a physiological state of the organ.

There are, however, certain conditions of the brain, in which a new order of things has been discovered to take place; and the very fact that it is known and can be shown to exist *only* in certain derangements of that organ, while in its physiological condition, signs which are purely negative in their character are developed, proves the former to be, not only a physical sign, but one which is most surely pathognomonic of some derangement of the organ itself.

Such then, being the case, can it be shown that the organs within the cavity of the cranium are "so disposed" as to render the art of auscultation or percussion in any way available, and that these physical signs are applicable to the brain? The very thought ought to commend itself to the consideration of every true lover of science.

Heretofore, and even at the present moment, the diagnosis of diseases of the brain rests solely upon the plausibility of physiological and pathological induction. But inductive signs are known to vary, and to vary exceedingly in organs of the most simple structure, from the force of the slightest variation of circumstance. How infinitely more complex and variable then, must they be when dependent upon the mere breath of circumstance, over an organ of such exceedingly complex structural organization, as that of the brain! Yet in regard to this organ, although we may never, perhaps, attain to that degree of precision, I might say physical certainty, which has been attained, in regard to diseases of the organs of the thorax, may we not rationally anticipate, that, with what industry and perseverance can accomplish, and with what may be accomplished by a newer and more rational method of investigating its diseases, our knowledge may become as certain, and our diagnosis of the diseases of the brain, in a degree, may be made with as much precision, as that of the heart and lungs!

In auscultating the heads of healthy children, four very different and perfectly distinct *bruits*, are heard passing through the brain. They are evidently the sounds which are produced by the act of respiration and deglutition, by the impulse of the heart and the voice.

The one which first attracts the attention, is that which is produced "by the impinging of the air against the walls of the nasal cavities during the act of respiration." It commences and terminates with the respiratory act, and in this respect, is peculiar and easily recognised. This sound has been denominated "*the cephalic sound of respiration.*"

"The second sound which strikes the ear, is one whose impulse seems to be transmitted from a distance. It is evidently that of the heart, and is a soft mellow sound, resembling that produced by softly palpating the cheeks when distended with air." This sound is synchronous with the action of the heart, and varies in frequency and intensity, as the contractors of that organ vary in rapidity and power. This has been called the "*cephalic sound of the heart.*" The sharp, piercing, and vibratory sounds which accompany the act of crying or speaking, and which can be so distinctly heard over every portion of the skull, has been termed the "*cephalic sound of the voice.*" It varies somewhat in its tone at different parts of the head, being the least shrill and piercing at the unclosed fontanelle. The other sound which attracts attention, and the only remaining one of the normal sounds of the head, attends the act of deglutition. It is a dull, massive, liquid sound, and so peculiar, that when once recognised, it never can be mistaken for any other *bruit*. This is the "*cephalic sound of deglutition.*"

Such are the *bruits*, which are heard in the heads of infants before the closure of the fontanelle. As age advances, and the density of the brain and cranium increases, these sounds become somewhat modified. The change which some of them undergo in the numerous lesions of the encephalon, is however, exceedingly slight; still, others are so manifestly changed in their character, as to become symptoms of cerebral disease.

Beside a modification of the "cephalic sound of the heart," under the influence of certain diseases of the cranium, to a consideration of which this paper is more particularly devoted, I shall have occasion, hereafter, to speak of an equally striking modification of the "cephalic sound of the voice," which is found to accompany, and which I think is characteristic of a *particular* affection of the brain. It resembles, as nearly as the nature of the organs could admit, the sound which if known to accompany the effusion of fluid between the two pleuræ of the lungs, and is never heard, except in those diseases of the brain which are attended with a similar effusion between the membranes by which this organ is enveloped. It is, indeed, no more nor less than a simple *ægophony* of the brain; and as such, I doubt not, but that hereafter it will be found a valuable acquisition to the category of signs, which belong to this obscure and difficult class of lesions. During nearly five years, in which the observations herein detailed have been made, I have noticed the "cephalic bellows-sound," or some modification of it, in no less than *eight* different and perfectly distinct lesions of the brain. In some of these, it has been a well-marked, constant, and invariable symptom; in others, it has been less so, while in all it has been sufficiently striking to render it a valuable and independent physical sign.

The different diseases in which this symptom has been present and characteristic, are thus arranged:—

1. In simple congestion or irritation.
2. In acute inflammation of the brain, with or without effusion.
3. In chronic hydrocephalus.
4. In acute or local compression of the brain.
5. In induration, or scirrhous transformation of the substance of the cerebellum.
6. In ossification of the arteries of the brain.
7. In aneurism of the basilar artery.
8. In aneurism, and certain hydrocephaloid diseases.

[The author here gives four cases illustrative of the light thrown on the diagnosis by auscultation.]

I shall now speak, in the second place, of the cephalic-bellows as connected with an *acute inflammation* of the brain.

Within the time that these observations have been made, I have noticed this phenomenon in nineteen different and distinct cases of acute inflammation of the brain. It was present in all of them as a prominent and unequivocal symptom; and as such, its progress and development were carefully noted, from the commencement to the termination of the disease in each case. [Three cases are here detailed at length.]

Beside the bellows-sound already described, my attention was, for the first time, attracted to the presence of a *peculiar*, and to me novel sound, *connected with the passage of the voice* through the brain and skull. It has a much sharper and shriller tone than that of the natural voice, and seems to strike upon the ear, as though the shrill notes of the clarion were echoing through the vault of the cranium below. It has, moreover, another character which renders it altogether *so unique*, that when once heard, it cannot easily, the second time, escape recognition; I mean a trembling-brazen-vibratory sound, which in imagination, resembles nothing so much as the noise produced by singing, crying, or speaking through the teeth of a comb, previously covered with a bit of silk, parchment, or paper. In two or three instances, since recording this case, I have noticed that this sound corresponded almost exactly with the trembling, bleating sound which is so characteristic of the *ægophony* of the lungs. And indeed, so nearly does this sound resemble in every essential particular that of ægophony, and so nearly also do the pathological conditions, necessary to the development of these phenomena, resemble each other, that I know of no appellation, by which *this* can be better designated from *that*, than by applying to it the term "*encephalic or cerebral ægophony*." But to resume the history of this case, it will be sufficient to state, that the *bellows*-sound still remained a constant and important symptom, so long as the powers of life were well sustained, and failed, only when they had become so much enfeebled, as to render existence, every moment, an improbability. The ægophonic sound of the voice, on the contrary, was equally present and distinct, from the time of its first appearance, up to the moment when the last groan told that life had indeed departed from the body.

I have noticed the cephalic bellows-sound in *actual and local compression of the brain.*

This physical phenomenon of the encephalon has been observed also in *induration, or scirrhous transformation of the substance of the cerebellum.*

I have observed, in the sixth place, the cephalic bellows-sound, as a symptom of *ossification of the arteries of the brain.*

In the seventh place, the cephalic bellows-sound has been observed accompanying an *aneurism of the basilar artery.*—Abridged from a long paper in the *American Journal of Medical Sciences* for October 1843.

NEW DIAGNOSTIC SIGNS IN FEBRILE AND OTHER DISEASES, WHICH PRESENT A TYPHOID CHARACTER. BY M. RANQUE.

According to this author, the pathognomonic sign of a fever which is likely to prove serious, is *a coating like mother-of-pearl*, of the gums between the molar teeth. If, in addition, leeches have been applied to the patient, the *bites will assume the colour of indigo.* This last symptom is quite characteristic, and, when observed, we may rest assured that however mild the symptoms may appear, they will, before long, assume a very serious appearance. But M. Ranque has gone further than this. He states, that when this pearly tint between the molar teeth disappears under the pressure of the finger, the typhoid symptoms will not be very severe. But if the exudation be thick, not disappearing under pressure, and occupying many of the interstices between the teeth, we may look for a severe and long-continued attack. As the disease advances, the colour of the appearance changes; it becomes black, and what are called sordes, (*fuliginosites*) appear. The same remarks apply to the bites of leeches. The deeper the indigo colour, the more serious is the attack likely to prove. If these signs exist at the outset of an attack of pyrexia, they are, according to the author, infallible marks, either of a typhoid fever, or of inflammation, accompanied by symptoms of a typhoid character.—*Journal de Médecine et de Chirurgie Pratiques*, Jan. 1844.

SOFTENING OF THE SPINAL NERVOUS SUBSTANCE.—INORDINATE VENERY.—CASE OF GENERAL PARALYSIS, &c. BY SIR BENJAMIN BRODIE.

One of the most common causes of paraplegia, commencing in the lower limbs, is a morbid change of the minute structure of the spinal cord; that is to say, softening or *ramollissement.* The change that occurs at other times in the brain takes place in the spinal cord after a concussion of the spine. A very common effect of concussion is to injure its minute structure, and then, to a greater or less extent, it dissolves itself into a substance like cream. In this state of softening it first loses its natural consistency, but still retains the character of solid substance. By and by it becomes completely melted down to a substance like cream; the membranes can hardly be lifted out, and when placed in water, the spinal cord floats, and the membranes remain by themselves. What produces this softening I cannot say. Some have said that it is inflammation, but certainly there are no marks of inflammation; there is no unusual vascularity preceding or accompanying the softening; there are no vessels loaded with blood, and, indeed, the parts are rather less vascular than natural. All that can be said is, that there is some peculiar change of structure, the proximate cause of which we cannot explain, nor very often the remote cause. A young lady had this state of the spinal cord, and ultimately died from it. She was a healthy young woman in other respects, and there was nothing to explain it. There is one very common cause of it—not in young women but in men—men who rank among what is called the *better* classes, which, I suppose, means only that they are richer than others; at any rate, they are not better in the point I am going to mention. There is a class of people, in London especially, who have no employment, who have large fortunes, and who spend half their time in intriguing with women; and in many instances you may trace the disease of the spinal cord to over-indulgence in sexual intercourse. Though we know more of the appearances after death than did the ancients, yet they very well described paralysis arising from this cause when they spoke of it as *tabes dorsalis.*

It has been said that paraplegia—paralysis of the lower limbs generally—depends on disease of the brain and not of the spinal marrow. This was maintained by Dr Baillie, and published in a paper of his in the Transactions of the College of Physicians; but he gives no facts on which the opinion is grounded. It seems to have been a notion taken up by him without any facts to justify it. However, there is reason to believe that, under certain circumstances, disease of the brain may produce paralysis in the lower limbs before it produces it in the upper. I examined the body of a man who was paraplegic, and I found water in the ventricles of the brain, but no disease connected with the spinal marrow. That you may have disease, however, in the brain and in the spinal marrow, combined in the same individual, there can be no doubt. Some of those young men who, from foolish habits, become paraplegic in the lower limbs, have also cerebral symptoms. There may be softening of the lower half of the spinal marrow, and of a good part of the brain. I think that if there is an entire absence of cerebral symptoms, you have a right to conclude that the disease does not exist in the brain, but is confined to the parts below; if, however, the patient says he has double vision, if you find one pupil dilated and not the other, and there be pain in the head and giddiness, you have a right to conclude that there is disease in the brain; but still, if there were absolute paralysis, I should conclude that there was disease in the spine also.

The case which I am about to mention is a very remarkable one. About nine years ago I was sent for into Lincolnshire to see a gentleman who was paralytic in the lower limbs. The symptoms of paralysis had exhibited themselves eight years before, and at the same time there was pain referred to the epigastrium. The disease had now extended upwards, the arms were beginning to be affected, and there was also dilatation of the pupil of one eye; but at the commencement it was a case of regular paraplegia. Neither my advice nor that of any one else did any good, and the disease was left alone. Ten years afterwards his wife was very ill, and he was brought with her to London. She came for medical advice; but his case being considered hopeless he did not consult any one. He was now completely paralytic in his limbs and arms, he could scarcely speak, and he could only just swallow. He lay as though the head were alive and nothing else. His wife died, and he soon followed. I obtained leave to examine the body. Mr Tatum and another friend accompanied me. We all three made a very careful examination. What we might have found if the spinal cord and brain had been macerated in alcohol, and if we had traced the fibres and examined them with a microscope, I cannot pretend to say; but, with such an examination as we could make in a private house in the course of a couple of hours devoted to it, we could not detect any morbid appearances at all. The spinal cord seemed rather smaller in size than usual, there was some little effusion between the pia mater and the arachnoid, and at the upper part of the spinal cord there was manifestly a blush. The patient had felt for a considerable time pain in the epigastrium, and I thought that might indicate some disease in the plexus there. We took it home with us; Mr Tatum dissected it with the greatest care, but nothing could be discovered. Do not, however, suppose that I believe this to be a mere functional disease, because we see nothing after death. The minute organization of the brain and spinal marrow is not visible to the naked eye, and even with the microscope you can only trace it a little way. I doubt not that there was some defect in the minute organization of the body, some change of structure not perceptible to us. I cannot suppose that such a train of symptoms could occur from mere functional disease.—Abridged from the *Lancet* of the 23d December 1843.

PECULIAR FORM OF PARALYSIS. BY WILLIAM P. BULL, M.D., of New York.

The cause of this affection appears to be the long continued pressure of the weight of the body upon the nerves of the fore-arm in sleep. The patients had gone to sleep with the fore-arm under the body; and in consequence of remaining in that position for several hours, paralysis—the usual consequence of continued pressure upon nerves—was the result. The cases I have seen, occurred in hard working people, whose slumbers are dead and heavy. In some instances, I suspected that extra narcotism had been produced by libations of beer and spirits.

The application of moxas as curative agents was attended with complete success. The form of moxa, which I have used, is that of small bits of gum camphor.—Abridged from the *New York Journal of Medicine* for January 1844.

SURGERY.

On Scirrhus of the Breast. By Sir Benjamin Brodie.

A scirrhous tumour of the female breast gradually increases in extent, ulcerates, and generally terminates the patient's life, after great suffering, in three or four years from its commencement; in some rare instances it remains stationary for a long time. I knew a lady who mingled in society with this disease for ten or fifteen years, and another, who had a scirrhous tumour for twenty-five years, and died of another affection.

In the large proportion of cases in which an operation is performed, the patient is not alive two or three years afterwards; and, in a great number of cases, instead of the operation stopping the disease, it actually seems to hasten its progress. Besides, the operation itself is not always free from danger. Much depends upon the nature of the case, and something upon the mode of performing the operation. If the whole gland in which the disease is situated be not removed, the disease is certain to return; and this corresponds to a rule which I think applies to all cases of malignant disease.

Scirrhous tumours of the breast may be divided into two classes: one, where there is a conversion of the gland itself into scirrhous structure; the other, where the scirrhous tumour is imbedded in healthy structure. In the first order of cases an operation never effects a permanent cure; the patient generally dies in two or three years, if not sooner, of effusion into the cavity of the chest. Where the skin is contaminated there is no chance of a permanent cure by operation.

What are the cases in which an operation for removal of the breast is proper? Where the skin is perfectly sound, where the nipple is not retracted, where there is no diseased gland in the axilla, where there is no sign of internal mischief, where there is no adhesion of the breast to the parts below, and where the patient is not very much advanced in life, I should say there is a reasonable chance of an operation making a cure. As long since as 1832, I removed a breast affected with scirrhous tumour, and the lady was alive and well last year. Since the operation, she has married and borne children. Last year I was called to a lady on whom I operated in 1830; she is alive and well. It may be advisable, in some cases, to perform an operation, where there is no chance of making a permanent cure, to give the patient a respite, and relieve her from present suffering. I have seen some cases illustrative of this position.

I know the operation is not always free from danger. I have lost patients after the operation, and every surgeon I know has had the same misfortune. Something depends on the way the operation is performed, and the patient managed afterwards; a good deal also on circumstances not under our control.

The circumstances under our control are these: First, We should take care that as little blood as possible is lost during the operation. Hæmorrhage during the operation, is a great evil; it lays the foundation for erysipelatous and venous inflammation, and other mischief afterwards. Do not stuff and cram the patient; do not keep her very low,—simply open her bowels. An operation is a shock to the system, which makes a great demand on the constitution, and accustomed stimuli cannot be withheld with impunity.

In a large fat woman, with an enormous breast, the operation is frightful; there is a large extent of surface, and there must necessarily be great hæmorrhage. In old persons, and those of a delicate constitution, the operation is always attended with much risk.—Abridged from the *Lancet* of Feb. 3, 1844.

Employment of Chloride of Zinc in Toothach. By Dr Stanelli.

According to Dr Stanelli, the chloride of zinc, liquified by exposure to the air, possesses the property of calming dental pains.

His mode of application is most simple. By means of a small hair pencil, a small quantity of it is applied to the cavity of the painful tooth, and in the space of a few minutes it appeases the most acute sufferings, without causing any irritation.

Before proceeding to the application, it is indispensable carefully to surround the cavity with cotton wadding, and, when the chloride has been applied, to fill it well with the same cotton. The mouth ought finally to be washed with a little warm water.

The author affirms that he has obtained uniform success from this means in more than fifty cases, and that he has never observed the progress of the caries rendered more active by it.—*Annali Universali de Medicina;* and *Chemist.*

TREATMENT OF BURNS WITH CARBONATE OF SODA. BY F. PEPPERCORNE, Esq.

In two cases of severe burns of the hand, I have applied, with great benefit, a single layer of lint soaked in a saturated solution of the carbonate of soda. This had the effect of completely relieving the distressing burning pain in the injured cutis, provided the part were kept constantly moist. In less than two hours all pain had entirely subsided; and the solution was no longer required. Besides acting as a direct sedative upon the nervous structure of the skin, the carbonated alkali may possibly relieve pain by neutralizing the acidulous quality of the perspiration as it passes off through the irritated cutis.—*Med. Gazette,* March 8, 1844.

FORENSIC MEDICINE.

TRIAL OF JOHN HAMILTON FOR ASSAULT, WITH INTENT TO RAVISH.—TESTS FOR THE SEMINAL FLUID.

In the High Court of Justiciary, at Edinburgh, on Monday 27th November 1843, John Hamilton was tried for the alternative crimes of assault, with intent to ravish Elizabeth Braidwood, a child under the age of puberty, and to the grievous and severe injury of her person; or, of using lewd and indecent practices towards the child, to the grievous and severe injury of her person.

The injury here libelled on consisted in the communication of gonorrhœa, with which the prisoner was affected at the time of the alleged offence.

The proof led was of the most distressing character, (the age of the injured child not exceeding seven years), and completely established the commission of the crime, (which had been repeated on several occasions,) as well as the communication of the disease. The medical reports are subjoined.

Report by Messrs John and Henry Duncan Spens Goodsir.

"*Edinburgh University Anatomical Museum, 9th September* 1843.—Having been requested to examine certain stains or spots on some shirts, a shift, a sheet, towel, and apron, in possession of the police, and to pronounce, if possible, as to their nature, I have to report, that, after careful investigation, I have arrived at the following results:—

"*1st,* On a shift, labelled as belonging to a girl named Braidwood, and on two coloured shirts, labelled as having been taken from the house of John Hamilton, I observed large spots or stains of a yellow colour, entirely resembling the stains produced by purulent discharges from the genitals.

"*2d,* On the girl's shift, and on a white shirt, two coloured shirts, a coarse towel, a sheet, and a small white apron, taken from the house of John Hamilton, I observed spots characterized by their faint colour, but particularly by their stiffness, as if they had been produced by starching. On the girl's shift, which was much stained by yellow matter, the stiff spots could only be detected by the feel, but that very distinctly. These stiff spots resembled, in all respects, those produced by seminal discharges.

"*3d,* When one of the stiff spots had been cut from the girl's shift, and another from the towel taken from John Hamilton's house, and had been steeped in separate portions of cold distilled water for some hours, they emitted a strong characteristic odour of seminal fluid.

"*4th*, When the two portions of muddy water, in which the two pieces of linen had been steeped, were examined microscopically, seminal animalcules, or spermatozoa, were detected. The majority of them were mutilated—the greater part of the tail being generally broken off, and the head not so plump as in the living state; but perfect specimens were also detected, differing in *no respect*, or in the *minutest detail*, from the living animalcules, except in the want of motion.

"*5th, I conclude, therefore, from the evidence afforded by the facts just stated, that the stiff spots or stains on the girl's shift, and on the man's shirts, towels, &c. were produced by the seminal fluid of a man.*

(Signed) "JOHN GOODSIR, Surgeon, and
Conservator of Anatomical Museum of University
of Edinburgh, 21, Lothian Street, Edinburgh.
HENRY D. S. GOODSIR, Surgeon, and
Conservator of the Royal College of Surgeons of
Edinburgh, residing with Mr John Goodsir, Surgeon,
21, Lothian Street, Edinburgh."

Certificate by Dr James Yarrall Simpson, Professor of Midwifery.

"I hereby certify, on soul and conscience, that I have, within the last eight days, examined on three different occasions, John Hamilton, at present a prisoner in the lock-up house. By these examinations I have satisfied myself that Hamilton has a discharge from the urethra which has the usual characters of gonorrhœa in its latter stages. Further, I have had an opportunity of seeing some of the seminal animalcules, obtained from the clothes worn by the girl, who accuses him of having attempted sexual connexion with her. These animalcules are decisive of the spot or spots on the shift, from which they were taken, being stained by male semen. On this subject, however, I enclose the opinions of the Messrs. Goodsir, two of the best microscopists in Scotland, and whose observations on such a subject as the present may be most implicitly relied upon.

(Signed) "J. Y. SIMPSON, M.D., Professor of Midwifery.
"EDINBURGH, 10th September, 1843."

The jury found the prisoner Guilty of the graver crime,—that of assault, with the intent to ravish, and other aggravations, as laid in the indictment; whereupon he was sentenced to be transported for fourteen years.

[The report by the Messrs. Goodsir, and accompanying certificate of Dr Simpson are of great interest, as indicating the satisfactory mode of ascertaining the presence of seminal fluid on linen some time after its being deposited. After an interval of weeks, and even months, the same method of inquiry has proved successful in other cases.]

TRIAL OF THOMAS WILSON FOR MURDERING HIS WIFE.—WAS THE DECEASED STRANGLED, OR DID SHE COMMIT SUICIDE BY HANGING?

In the High Court of Justiciary at Edinburgh, 14th March 1844, Thomas Wilson, spirit-dealer in Greenock, was placed at the bar, accused of murder, in so far as on the 26th of October last, within the house or shop in Springkell Street, Greenock, the prisoner did wickedly, maliciously, and feloniously attack and assault Jane Drummond, or Wilson, his wife, then residing with him, and did strike her one or more blows, with his hands or fists, on the head, breast, and other parts of her body, and did kick her with his feet, and seize her by the arms, or other parts of the body, and throw her on the ground against a fender, or other article of furniture, or hard substance, and did, with a handkerchief, or with his hands or feet, or in some other way, to the prosecutor unknown, violently compress her throat, and strangle or suffocate her; by all which means the said Jane Drummond, or Wilson, was mortally injured, and immediately, or soon after, died, and was thus murdered by the prisoner; and that the said prisoner did previously evince malice and ill-will against the said Jane Drummond, by repeatedly beating and threatening her, and attempting to strangle or suffocate her.

The prisoner, (who had for his counsel Mr J. Hall Maxwell and Mr Archibald Boyle,) pleaded, in a distinct tone of voice, Not Guilty.

Claud Marshall, sheriff-substitute of the lower ward of Lanarkshire, proved the prisoner's declarations, and identified three handkerchiefs produced, and referred to in those declarations.

[*By Mr Maxwell.*]—The death was on 26th October; but the medical attendant said he was unfit for examination. On 6th November he was declared to be well, and on the 8th was brought up for examination. He then seemed to be perfectly well and collected. He appeared distinctly to recollect all the circumstances on which he was examined.

George Williamson, procurator-fiscal, Renfrewshire, corroborated the preceding, and identified the handkerchiefs.

Robert Dale, son of Peter Dale, brassfounder, Greenock, aged thirteen.—Knows the prisoner, who has a shop in Springkell Street, Greenock. Remembers being sent to the post-office with a letter on 26th October. Passed Wilson's shop about a quarter past one. Heard a woman crying; another, a girl, saw it too. Witness then went back, and saw a man striking a woman on the left cheek. It was in the shop; a spirit shop. The prisoner at the bar is the person who struck the blow. The woman struck was his wife. They were in the kitchen, behind the front shop. Saw Wilson strike her a second blow on the breast, and attempt to kick her, but missed. Prisoner came to the door, and told witness to go away or he would kick him. Witness went away after that. The woman shied the blow by going back a bit.

Thomas Hendry, apprentice skinner, passed Wilson's shop on 26th October, about one o'clock. Knew Wilson and his shop in Springkell Street. Witness was called over the street by a little boy. He saw Mrs Wilson in the act of rising and pushing back her hair, which was hanging loosely over her face. Saw her attempt to get to the door three times. Wilson pushed her back as often into a room leading off the shop, round the end of the counter. She made an after-attempt to get out; but Wilson struck her on the breast. She cried out, "O dear! is nobody coming to save me!" She was weeping and wringing her hands. Witness told Wilson it was a shame to use his wife so. The prisoner then clashed the door to; and witness went away. Identifies the prisoner.

Sarah Benson, eleven years old, and not sworn, knows Wilson's shop in Greenock. Was previously in his service for some time. Heard of Mrs Wilson's death at the time. Saw the crowd about the door on the day of her death. A short time before that witness was sent over by Mrs M'Hutcheon to Wilson's house to know the hour. She entered the house and found Mrs Wilson lying across the fireside; the sleeve of her gown was ripped. Witness gave a rap on a barrel. Mrs Wilson attempted to rise, but was scarcely able. She sat on her knees a while, and then on a chair. Mr Wilson came in and told witness it was one-quarter past one o'clock. This was in the kitchen. Identifies the prisoner.

Mrs M'Hutcheon resides in Springkell Street. Knows the prisoner. Remembers the day of Mrs Wilson's death, and of sending Sarah Benson to his shop that day. The girl told her of what was going on in Wilson's house. Witness then kept on the look-out to see Mrs Wilson, who never came into the front shop, as far as she saw. Saw a man named Watt go into the shop, a few minutes after the return of the girl. Watt was in the habit of getting his victuals prepared there, and used to take them in the kitchen. Witness saw the prisoner push Watt into the east room, and turn back into the kitchen. Wilson had his coat off. Also saw Dr M'Kellar go into the house a few minutes after Watt. The Doctor spoke to Wilson at the door, and appeared to be going away, but went in, as she thought, at Wilson's request. Witness does does not know what room he went into. Paid no more attention till she saw

Wilson pass for Jessie Drummond, Mrs Wilson's sister, about two o'clock. Miss Drummond came over, and witness went across and saw Mrs Wilson lying quite dead. Her body was lying in bed, and was quite warm. Asked Wilson the cause of his wife's death, and he answered that when he came ben the house he saw her sitting on a stool at the foot of the bed, and he thought she had fainted. They thought she might yet be in life, and M'Kellar tried to bleed her, and a little blood came from the body. Witness began to dress the corpse at Wilson's request, and when taking off the clothes saw marks of violence on the body, particularly on her arms and neck. The body was removed from the bed, which was in a closet, to the sofa in the kitchen. From a gurgling in the throat, as if life was not entirely away, Wilson proposed to give her some spirits. Thomas Drummond, the brother of deceased, then came in. He asked Wilson how it had happened, on which Wilson asked Drummond to go with him into the closet. Heard Wilson say, that when he came in Mrs Wilson was hanging behind the door. Drummond went away, and brought the officers some time after. On their asking Wilson what she was hanging with, he held up a piece of flannel and a bandage, and said it was these, or a blue napkin, which he did not show them. The marks on the body were blue. Witness knew Mrs Wilson. She was a quiet, nice woman. Had frequently complained to witness of ill usage by her husband. Has seen her crying. She once complained to her of him, and showed her neck was blue. She then said that she was in bed and was ill used by him, on which she rose and went into the closet, but Wilson broke through upon her by a door at the back of the bed, and seized her by the neck. She thought she would have been killed. She was thrown on the ground, and was made insensible by the treatment she received.

[*By the Court.*]—There was no smell of spirits about Mrs Wilson's body. One sleeve of Mrs Wilson's gown was partly torn off. Her cap was lying on the floor, and a clean one had been put on her head. Wilson was not the worse of spirits. He did not appear excited. He seemed sorry for his wife's death, and did every thing that was kind for her. He spoke little, and was rather confused when asked about the cause of his wife's death. Miss Drummond wished the doctor to go away, as she did not like him. Witness heard Mrs Currie ask the cause of deceased's death, before Drummond came in. Mrs Wilson was sometimes melancholy and depressed, and at other times quite cheerful. Wilson pointed out to Drummond where his wife was hanging, and said it was either on *that* nail, or on the bracket.

Dr M'Kellar, surgeon in Greenock, knows Wilson; and attended him professionally. Remembers the day of Mrs Wilson's death. Visited him a few minutes before two o'clock. Met Wilson at the door. Wilson said he was in his ordinary health, but that Mrs Wilson was still complaining. Went into the eastmost room of the house. There is an intermediate drinking-room or box between that and the kitchen. Watt was there. After examining Watt as to a complaint he had, they had a glass of spirits. Witness requested from Wilson ink and paper, and afterwards a handkerchief. Before that, witness had been about ten minutes in the room. Wilson was standing at the door of it, but not the whole time. He was attending to the shop, and was not absent above two minutes at a time. Wilson went away, and in about two or three minutes, witness heard cries of "Doctor," when witness entered the closet, and saw Mrs Wilson behind the door, in a sitting position on the floor, with her back to the wall. Thought she was in a faint, as she was complaining before, and ordered her to be put into the bed. On taking her to the bed, he was quite satisfied that she was dead. There was nothing about her neck, or on the floor near, by which she could have suspended herself. She was not stiff but cold. Would suppose she had been dead nearly an hour. Examined her pulse and chest, but found no signs of animation. There was an ecchymosed mark from the left ear towards the right. Did not ask how her death had come about. Wilson made no remark, but fell into a mournful state; he remained with witness the whole time he was in the house. Was in the closet alone with Wilson for a quarter of an hour, but said nothing to Wilson when he saw the marks on her neck. These marks excited witness's suspicion that she was strangled. Her face was livid and swollen, and the eyes congested, and pupil dilated. Did not mention his suspicions to Wilson. They were principally occupied in putting deceased into the bed. When Miss Drummond came in, he mentioned his suspicion that she had been strangled. Wilson was present when witness mentioned this, but made no direct answers, and continued to mourn over the body. Miss Drummond said to Wilson, "he has managed it at last." Wilson made no reply. This was after witness stated what he suspected. Miss Drummond wished her sister to be bled, which witness said he thought was useless. She was bled, and they got about an ounce of blood. Mrs M'Hutcheon came into the room. She put no questions to Wilson. After Miss Drummond came in, witness remained another quarter-of-an-hour with the body, which continued on the bed, though it was removed to the sofa before he left the house. Went to the east room from the closet, and remained there for half-an-hour, and returned to the kitchen, when Thomas Drummond came in. Dr Fox came in, while witness was bleeding the body, and left the closet before witness. The whole time he was there, Wilson never gave any account of the cause of death, and witness never put any questions to him on that point. Wilson never said she had hanged herself. She was not found in a position in which she could have hanged herself. Witness's impression was that she had been strangled, from the appearances he observed. If so, she certainly could not have done it herself. Witness remained another quarter-of-an-hour after Drummond came in. Thomas Drummond said to Wilson, "You have done it at last." Wilson replied, "Far from it, the reverse of that;" and that when he went away to bring paper to witness, he tore two leaves out of a book. Witness did not mention his suspicions to Thomas Drummond. Wilson was ill with ulceration of the leg. Witness did not dress his leg that day. On his return to east room, witness found Watt there asleep. He was the worse of liquor when first seen. Shown the handkerchief which he got from Wilson, and which he gave up to the Procurator-Fiscal. It was not twisted, but lying loose on a table in the kitchen.

[*By Mr Maxwell.*]—There was nothing in Wilson's appearance to attract witness's attention. He maintained the same demeanour the whole time, till the body was discovered. A noise would be easily heard through the partitions, which are not thick. Wilson did not go for Miss Drummond. The mark on the neck was compatible with the idea of her having been hanged. Supposing a ligature had been pressed on the neck of deceased by another, witness would have expected a horizontal circular mark round it. It is almost impossible for a person to strangle himself. Hanging is also a death by strangulation, and is a possible mode of suicide. Has known the prisoner Wilson and his wife for four years. They lived agreeably, and he treated her kindly as far as witness saw.

[*By the Court.*]—Had attended Mrs Wilson professionally eighteen months before. Wilson did not say what was the matter with his wife when he said she was complaining. Witness wrote an account on the paper Wilson brought from the shop. This was about five minutes before he asked for the handkerchief. Witness sent a person who came into the shop, for Miss Drummond. No person could by his own hands continue the pressure necessary for strangulation till he was dead. Did not tell Drummond his suspicions as to the cause of death, because the question was not asked him. The body was quite cold. The cooling would be favoured by the stone floor of the closet. Witness did not hear Mrs M'Hutcheon say that the body was warm. Saw a mark like the impression of a finger on right arm. That mark must have been of two or three days' standing, as the lividity was beginning to vanish, and a yellow areola was formed round it. There was no mention before he left the house that the death might have been caused by a blue handkerchief. Did not mention to anybody that he had taken it up. The other was a brownish handkerchief. Gave up the handkerchief to the Fiscal when he was asked for it about a week afterwards. Did not mention to Dr Fox his suspicion of her being strangled. The reason Watt was not summoned was his being drunk. Witness had used his own handkerchief for a different purpose, and wanted another for common use.

Thinks Mrs M'Hutcheon or one of the other females put the clean cap on. Did not remain till the officers came.

[*By the Jury.*]—Witness saw no conversation between Miss Drummond and her brother as to the cause of death. Drummond accused Wilson before he had seen the mark. A small quantity of blood will flow from the arm after the body is cold.

Jessie Drummond.—Knows the prisoner; he was married to witness's sister. Her sister died on 26th October last. Wilson came for her. He said that Jane was dead. It could not be more than twenty minutes past two. Witness arrived first, and saw Dr M'Kellar standing by the bed, and witness, thinking her sister was not quite dead, asked him if anything could be done for her; to which he said nothing could be done. Asked Wilson how it had happened, to which he made no answer. Dr M'Kellar bled her at last, a good while after witness came. Went for Mrs M'Hutcheon. Her sister had no cap on; but when witness came back, she saw Dr M'Kellar tying a cap on her head. Her face was black. When pressed to answer about her death, Wilson said that he was drinking ben the house with M'Kellar, and called her, but on her not coming, he went and found her in the closet sitting on a stool at the bed. Wilson pointed to the place. There was a chair at the place. He said that he tried to lift her, when she told him she was very ill, and he said that he got M'Kellar to assist him, and that she died when they were putting her upon the bed. Witness asked M'Kellar if he saw this, and he answered, "Yes;" and if Wilson's statement was true, and M'Kellar said, "Yes." On being again questioned, Wilson said that he and M'Kellar were standing in the kitchen, and Mrs Wilson was in the closet, and on going in, they found her on the bed, when she said she was very ill, and soon after died. M'Kellar heard that statement, and said nothing. M'Kellar asked her what brought her (witness) here, and wanted her to go away. Witness then went for Mrs M'Hutcheon. Mrs M'Hutcheon went at her request for another doctor, and Dr Fox came. The body was coldish when witness went in—the pulse and the arm were cold. A little blood came when the body was bled. Dr Fox came in then. M'Kellar asked for cold and hot water, which they brought him. He then tore a bandage which was lying on the bed, and wiped all her face with it. M'Kellar wished the corpse to be dressed, but witness insisted that it should not be done till her brother came. M'Kellar told Mrs Currie not to mind witness, but to dress the corpse. Mrs Currie took off the cap, and witness saw the marks on the neck, and asked Wilson how these marks came there, but he made no answer. There was a brown and yellow handkerchief lying over the neck of the body. It was taken away when the cap was put upon her head, and witness never saw it afterwards. A man named Downie came in then. M'Kellar ordered him to put out some hat-boxes which were behind the door; witness ordered this man to go away, and also M'Kellar. When the body was brought to the sofa, witness felt the breast was warm. Dr John Spiers was sent for, when witness's brother came in. Heard her brother ask Wilson how it happened, but did not recollect that Wilson gave any answer. Wilson and her brother went into the back closet. A considerable time after, when her brother went away, witness asked Wilson, who was sitting beside the body, what did he think of what he had done, and Wilson said, not to say anything. Witness asked, "Why?" and Wilson said he got her hanging behind the door. Wilson said she was hanging by a blue spotted handkerchief. When asked if he had loosed the handkerchief, he said he had cut it down with a knife. Witness said if he would show her the knife and handkerchief, she should be satisfied, and she took a candle and went into the closet, and Wilson went along with her, and picked up one or two things, but could not find anything that would answer. He pointed to a bracket which supports a shelf above, and said it was there she had hanged herself. Witness took the candle and looked at the bracket, which was all over with dust, not disturbed as if anything had been hanging on it. Wilson stood up to look at it, but did not say anything, and went away out into the kitchen. There are three nails on the back of the door. The bracket is wooden, and supports a shelf. Soon after this, Dr Auld and the officers came. The officers went into the bed-closet with Wilson, and shut the door. Saw no stool in the closet, but one in the kitchen, under a chair.

George Hamilton, master of works, Greenock, made a sketch of Wilson's house. There is a fixed table in the bed-closet against the wall between the bed and the closet door, filling up the space. It will be about 15 inches wide. The space between the table and the door is about 6 inches. The bracket is fixed on the style just above the table. The kitchen is 11 feet 3 inches in length and 7 feet 3 inches in breadth. The closet is 7 feet in breadth, 6 feet 9 inches long at the back, and 8 feet 3 inches along the other wall, being angular. Saw the bracket in the room. Thinks it would support a human body. The bracket is 5 feet 5 inches high. When the door was opened the body would be jammed up against the table. There is a door behind the bed into the passage, but it is nailed up.

Jessie Drummond recalled—The band-boxes were up against the wall along the breadth of the table, and covered part of the top of it. Some weeks after took the stool into the closet and sat upon it behind the door, and found that she could not sit upon it without being crushed against the table when the door was opened. When the door was up, it went close to the band-boxes, perhaps there was the space of her hand between them. The bracket was immediately above that small space. There were handkerchiefs found in the house, but none cut. A brownish handkerchief which her sister and Wilson used to wear was given up by her brother to the officers, taken out of a band-box. The folds were quite distinct, as if newly cleaned. Saw Dr M'Kellar using a handkerchief like the blue one shown, before he went out of the house. Has seen Wilson strike her sister several times. Saw him push her on the Tuesday before her death. They were married about thirteen years. Has been in Greenock four years. Never saw Wilson till she came to Greenock. Mrs Wilson had to leave her own house in the middle of September for three days. The reason was, that Wilson struck her and abused her, and gave her bad language. She expressed herself in fear of her life. Some time before she showed witness her throat all black, from the effects of Wilson nearly choking her. Has frequently seen her with the marks of blows on her person, which she said she got from Wilson.

[*By Mr Maxwell.*]—When these quarrels did not take place they lived peaceably. He sometimes struck her when sober as well as when drunk. Sometimes Wilson was kind to her.

[*By the Court.*]—Wilson was not drunk the day of his wife's death. Had been drinking some however. M'Kellar had been drinking too. "Why did you wish Dr M'Kellar put out?" "Because I thought he was accessory to the murder." Had no doubt her death was caused by foul means. M'Kellar never said she had been strangled. On going into the closet, said to Wilson he had done for her at last, to which he made no answer. Though the right arm was cold, the chest was warm. The handkerchief thrown over the breast when witness came was not one Mrs Wilson could have worn. It was over with snuff. Wilson does not snuff. M'Kellar used to snuff. Is not sure if he snuffed at that time. More of her breast and neck was exposed than usually was the case with her, by taking away this napkin. No part of her gown was torn but the sleeve. When first seen, her hair was as she usually wore it. Witness' impression was that the marks round the neck were caused by something drawn tightly round it. When M'Kellar wiped the face with the bandage dipped in water, it had not so much the appearance as if violence had been used. It became more like that of a corpse. M'Kellar two or three times insisted on the body being dressed, but gave way when he saw witness was determined against it. They had a servant, but she was not in the house at the time. Mrs Wilson's health was good before her death. She was quite cheerful when Wilson was not abusing her. Does not think his treatment had such an effect upon her as to make her anxious to make away with herself. She was five feet five in height. The nails on door were used to hang gowns on. Wilson's linen was mostly kept in the bed-closet.

Grace M'Kechnie heard of Mrs Wilson's death; and in consequence went down to Wilson's house, about twenty minutes or a quarter from three. Saw

the body lying in the bed; Wilson was standing at the bedside. Asked him if Mrs Wilson had been complaining. He said, "no,"—but that he had been in the room, together with William Watt and Dr M'Kellar; and, on calling for a gill she did not answer—that he found her sitting on a stool in a faint—that he brought a jug full of water, and called for Dr M'Kellar. Witness looked at the body. There was a mark on Mrs Wilson's neck. Witness asked Wilson the cause of it. He said it might have been done by her napkin or cap. After Thomas Drummond came in, prisoner showed witness a nail at the back of the door, and said he found her on her knees, hanging on that nail by a handkerchief. The body was not quite cold.

Thomas Drummond, clerk in Greenock, **brother of the deceased, was told of his sister's death. Went to the house; it was near three o'clock. Went direct to his own shop, which is on the opposite side of the street. Met M'Kellar, and asked him if nothing could be done. He said, if witness would go back to his own shop, he would explain about it. Witness insisted on going to Wilson's shop. Did not think his sister dead, and immediately sent for two more doctors. Then went forward to see the body. Mr Wilson was applying a glass with some liquid in it to the lips. Witness put him back. On putting him back, saw the mark upon the neck. After examining the mark, witness asked Wilson what had caused it. He said something about going into her bed-closet. I followed him there. He showed me the bracket on the wall; he said it was done there. Witness asked with what? Wilson did not answer. Witness asked what he had done with *it;* he said he put it into the window. Witness asked if it was a blue handkerchief. After some consideration, prisoner said "No." M'Kellar asked witness to go with him, when he left the closet, as he would explain it to him. He said that he had left his handkerchief, and that, when Wilson went to get it, he found the body. Wilson asked witness what he was going to do. Witness said he was going to apply to the Fiscal for an examination of the body. Wilson said not to blame him, for he was innocent; he then said if witness would wait a little he would explain it to him. He took witness to the east room where M'Kellar was sitting; he said M'Kellar had come in to get a dram; and after they had drunk one gill, he knocked for another, and nobody answered; he knocked again, and there was no answer still; he then went into the closet and found her hanging there. Wilson had had a dram when witness went, but was qualified to do business. He was quite calm, and gave distinct answers to the questions. Dr M'Kellar had had a dram also; he was neither drunk nor sober, just as witness was in the habit of seeing him. Witness's sister was a person of sober habits. Witness's sister and prisoner did not live happily together. Could not say he had seen prisoner ill-use her, but had heard him use bad language. Found a brown handkerchief (which witness identifies) in a hat box.**

[*By Mr Maxwell.*]—When in the closet with Wilson, witness put his hand to the bracket to feel the strength of it. It was a wooden bracket, an inch thick, and three or four inches long. Wilson was affectionate to his wife when sober.

[*By the Court.*]—Till he saw the mark on the neck, witness suspected nothing different from a natural death.

George Kerr, police-officer in Greenock, **went between three and four o'clock to Wilson's house. Wilson said Mrs Wilson had hanged herself in a closet off the kitchen. He put up his hand to a nail on the back of the door; he hesitated a little, as if there were something wrong. Then he put his hand to the bracket, and said it was here she was hanging. On witness inquiring what she had been hanged with, prisoner took up a piece of cotton bandage about four feet long. Prisoner made a loop upon it, saying it was done that way, with her back straight to the bracket, and adding that he had cut her down. On looking at the bandage, witness said he did not think that would hang any person. Searched the whole room; found neither knife to cut with, nor the bandage cut. There was a piece of flannel brought also, but prisoner did not say any thing about it. Identifies the bandage and flannel.**

Alexander Davidson, police officer, Greenock, **identified the bandage and flannel, and corroborated the evidence of the previous witness. When witness said**

the bandage was not strong enough, prisoner then pointed out the flannel as having been used.

Thomas Stuart, sheriff-officer in Greenock, identified a black and a brown handkerchief, which he got from Wilson's house a day or two after his removal from it by the officer.

David Begg, blacksmith, Greenock, was in Wilson's shop about a quarter before two on the day libelled. Gave a rap, and afterwards a whistle; prisoner then came from the back closet, having his coat and neckcloth off, and his sleeves tucked up. Thought Wilson had been having some drink; thought him looking somewhat disordered, as witness has sometimes looked himself. When witness said "you have been drinking," prisoner answered "no," but that he had been the previous night. He said he was going to wash himself.

Dr Auld, Greenock, examined the body of Mrs Wilson on the 26th October, in the kitchen. On the 27th he fully inspected it with Dr Mackie, when they drew up a report, which he read as follows :—

"By virtue of a warrant from the sheriff-substitute of the lower ward of Renfrewshire, dated the 26th of October 1843, we, the undersigned medical practitioners in Greenock, proceeded this day to a house situated at the east end of Springkell Street, and examined the dead body of a woman, said to be that of Mrs Wilson.

"The body was lying on a sofa, the head uncovered, and her hair hanging loose, but not dishevelled. It was clothed with a blue printed cotton gown, the right sleeve of which was almost entirely torn from its attachment at the shoulder. There was also on the body two petticoats, and a linen chemise, and on the legs a pair of black worsted stockings; over the external parts of generation was a bandage, such as is commonly used by females during menstruation —on this bandage were marks of the menstrual discharge, and on the chemise were similar marks, together with stains of feculent matter.

"The body was that of a plump, healthy person, apparently from thirty to thirty-five years of age. It was cold, and the extremities were rigid.

"The length of the body was five feet three inches.

"The countenance was pallid but placid, the eye-lids closed, the pupils dilated, the coats of the eyes free from effusion of blood, and the teeth firmly clenched.

"On the right arm was a bandage, and under it a piece of plaster, covering a wound, which was reported to have been made in an attempt to bleed. Nothing unusual was observed at any of the external orifices of the body.

"On the left side of the chin there was a recent contused oval mark, about the size of a six-pence, and close to it a small spot, the size of a pile of barley, of a brightish red colour—on neither of these was there abrasion of the skin.

"On the anterior part of the neck was observed a reddish livid mark, extending from one inch and three quarters below the angle of the jaw—on the right side, across the neck, over the upper part of the thyroid cartilage, to within half an inch of the lobe of the left ear—a little to the right of the upper part of the thyroid cartilage, and on that cartilage, there was a circular abraded spot, the size of a shilling, and here the subjacent texture was condensed, and of a yellowish brown colour. The mark running across the neck was pretty uniformly half an inch in breath, and was more distinctly marked on the left than on the right side. The lower edge of the mark was very distinctly defined.

"On the anterior surface of the trunk of the body were observed no marks of any kind; on the posterior, only the lividity usually seen in dead bodies, from gravitation of blood after death.

"On the middle of the right fore-arm, over the radius, there was observed a livid contused mark, about the size of a shilling. There were two similar marks on the ulna, nearly of the same size, the one situated three inches from the wrist, the other about an inch and a half.

"There was also an extensive blueish mark of the integuments covering the metacarpal bone of the thumb, and extending over the part of the wrist immediately adjacent. This last mentioned livid mark, when cut into, showed blood recently effused; the others on the same arm were of an older date.

"On the fleshy part of the left fore-arm there was a black mark, of an irregularly triangular form, commencing about two inches below the internal condyle of the humerus, and extending downwards a space of about three inches. Another reddish blue mark was observed at the carpal extremity of the radius. This mark was the size of a shilling. There were two blue marks on the back part of the arm, smaller than the one above described, one of these at the carpal extremity of the ulna, the other two inches higher in the arm. There was likewise a blueish mark on the ball of the left thumb. The large triangular mark on the fleshy part of the fore-arm, the two over the ulna, and the one in the ball of the thumb, were recent,—the other on the radius was not so.

"On dividing the integuments of the neck, the veins were found to be distended with dark fluid blood. A careful examination of the integuments and muscles of the neck showed nothing unnatural, except as specified in the appearance of the surface, already described. The larynx, trachea, and gullet, were sound. On the lining membrane of the larynx and trachea was a little glairy mucus, slightly tinged with blood.

"The external surface of the lungs appeared healthy; they did not fill the cavity of the chest; the left lung considerably collapsed. This lung, when cut into, was found to be considerably engorged with blood, particularly its depending portions, yet it crepitated throughout. The right lung was also congested slightly in its upper, greatly in its depending portions.

"From divided surfaces of this lung there issued a considerable quantity of frothy serous fluid, and also black fluid blood. This lung crepitated slightly at its upper, not at all at its under portions.

"The pericardium was healthy, and contained the average quantity of serum. The heart, of average size, was sound in structure; the right ventricle contained a little fluid black blood; the left was empty.

"The viscera of the abdomen were severally examined, and found healthy, with the exception of the ovaries, the right being preternaturally hard, the left containing some clear fluid.

"The stomach contained about a gill of pulpy fluid, of a port wine colour, with a few pieces of potatoe interspersed. The villous coat was more vascular than usual.

"The bladder was completely empty.

"On proceeding to examine the brain very little blood issued from the blood-vessels of the scalp. The blood-vessels on the surface of the brain were more than usually distended. The brain itself, with its investing membranes, was healthy. The cerebellum was slightly softened. The ventricles contained about a tea-spoonful of clear fluid.

"On a careful review and consideration of the appearances manifested in the foregoing examination, we are of opinion that Mrs Wilson died from asphyxia, or interrupted respiration, caused by external pressure on the throat.

"At Greenock, the 27th day of October 1843, on soul and conscience.

(Signed) "JAMES MACKIE, M.D.
"CHARLES AULD, M.D."

Witness considered that Mrs Wilson died of interrupted respiration. That may be produced in various ways,—strangulation, suspension, or other ways. The effects of these will operate similarly, or differently, according to the position of the body. Almost the same appearances may result from either. The determination might be a mixed question on the moral evidence. Did not observe any mark of a knot, except the abrasion on the thyroid cartilage. The mark did not appear to taper to any point. It was pretty uniform in breadth. The mark might have been produced by the force of a hand pulling up a ligature; but then witness would have expected the right side to have been marked similarly with the left. It did not appear to have been caused by a noose. If done by a pull up, both ends of ligature must have been held. It seemed to have been effected by a single application of the ligature, whatever was its nature. If a person's hands had been used, a position might certainly have been chosen to produce the effect observed by witness. Witness examined the bracket in the closet, and the brown and other handkerchiefs produced, and he and Dr Mackie were convinced that the handkerchief could not have been twice round the neck, and on the bracket also, to cause suspension, even if the party were standing on a stool. It could only have been once round the neck; the handkerchiefs were not long enough for suspension in that way. It is possible that single *bight* might have caused the mark; but considering the softness of the substance employed, and the shortness of the fall, if the person were standing, witness doubted if the mark, and especially the abrasion, could have resulted. The height of the bracket was 5 feet 9¼ inches, and a person of Mrs Wilson's size would have her toes resting on the ground, and there would be less chance of her abrading her neck, as the weight would then be diminished. The whole position of the bracket beside the table showed that suspension could only be produced by a long ligature in the absence of a stool, and a long ligature would cause the body to lean on the ground. The mark over the thyroid cartilage might have been produced by a person's finger, but there would probably have been a corresponding mark behind. On the right fore-arm there were recent marks of violence; and on the other also:—they might have been produced by blows. The marks on the wrists must have been the effects of violent wrenching.

[*By Mr Maxwell.*]—In the case of suspension, medical men generally expect an obliquity of mark. In cases of public execution, and generally where there has not been a single turn of the ligature employed, the obliquity is usually visible on one side only, the apex pointing upwards towards the ear. This is also the appearance in cases of voluntary suspension. In cases of strangulation, the mark is generally horizontal round the neck; at least it might be expected to extend a greater length than was observed on deceased's neck. Where the hands were used to cause strangulation, there would be marks of the fingers,—at least generally. People have been known to hang themselves with their feet upon the ground, and even sitting. That might account for the mark being no higher up than the thyroid cartilage. From the position of the furniture in the bed-closet, at the place pointed out, witness observed that the body, if suspended, would hang a little off the perpendicular, which would be likely to produce the particular obliquity observed. The external pressure in this case must have been applied by a ligature of some kind or other—not a cord. The pressure must have been very considerable, as shown by the complete obstruction offered to respiration. How that pressure was applied it is not possible to say. The effect of menstruation on the minds of females, depends a good deal on their individual temperament. A nervous woman, in that situation, would be more likely to be affected by sudden excitement, and depression.

[*Re-examined.*]—Witness' observations are founded on the use of a noose from a single descending cord. It is the single cord in public executions which causes the obliquity. In a double ligature the mark would be internally horizontal round the neck, while the ends would show an obliquity.

[*By the Court.*]—Witness did not think the deceased could have been suspended for a long period. If she had hung long, some of the discharges might have been more abundant, though these are usually emitted at the moment of the death-struggle. The surface of the body might have become cold by a spasm of the extreme vessels; and on that passing off, the heat might have increased. Witness could not say whether the eye will close after strangulation,—more usually it will not be closed. The mouth may close, if the tongue be not protruded. On the 26th, the face was pallid, and the lips a little livid. Witness does not think the application of tepid water would diminish the lividity. When first seen, the face would probably be blackish.

Dr Mackie was called to see the body on the 26th and 27th October, and made a report along with Dr Auld.

[*By Mr Maxwell.*]—The external pressure appeared to have been caused by hanging. It is chiefly the obliquity of the mark on the neck, and the fact of the apex being to one side, which confirmed that impression. Witness examined the bracket and the position of the furniture. If suspended from the bracket, the inclination of the body would account for the obliquity; finger-marks would have been expected had the act been done by hands. The mark was not consistent with the idea of force applied round the neck; but it was consistent with force applied in front of it. Witness thinks it possible that a single person could apply a ligature so as to produce death, without passing it round the throat. Hanging appeared to him to be the fair and reasonable interpretation to put upon the mark.

Menstruating women are apt to be excited, and may be said in some cases to be pre-disposed to suicide.

[*Re-examined.*]—Has not had great experience in cases of strangulation. Witness does not understand that the presence of a noose has any connection with obliquity. With the hands of a man, according to the position he might take, such an obliquity could be produced. The handkerchief could not have been doubled twice round the neck, and applied to the bracket.

Dr John Fox is a surgeon in Greenock. Was requested to go and see Wilson's wife. Saw a female lying on a bed. Dr M'Kellar had been attempting to bleed her. She had no pulse, and had every appearance of being dead. There was some warmth about the body. The face was puffed and bloated. She could only have been dead 20 or 25 minutes. Wilson appeared composed. He said his wife had been ailing. No mark on the neck was pointed out to him. Witness went away soon after.

[*By Mr Maxwell.*]—Witness was present next day when the body was examined. Her death, he thought, was produced by asphyxia, through external violence. This violence may have been applied by a band or a ligature; and probably by suspension rather than strangulation.

The prisoner's declarations were then read. He denied having struck his wife on the day she died. He said he had had words with her during the day caused by a trifling incident; and that she was perfectly furious. He related Dr M'Kellar's coming into the house,—it was during his visit that he went to seek his wife, she not having answered to his call. He found her in the closet off the kitchen, "behind the door in a corner, half-suspended and half-standing on a little stool, with her lips quite black, and her face perfectly white, with a silk and cotton handkerchief tied round her throat, and the slack of it tied to the bracket of the shelf, and the knot of the handkerchief which was near the two ends was close under her chin, and the handkerchief seemed to have been passed round her throat several times." His wife had been complaining for two or three days, and was threatened with fever, but declined medical attendance. He further identified a brown and white checked silk and cotton handkerchief, which was produced at the trial, and referred to by the medical witnesses and others, as the one which was about his wife's throat.

William Watt, causewayer, did not see Mrs Wilson on the day of her death. Heard no din of any kind after he went in about ten minutes to two o'clock.

[*By the Court.*]—Met Dr M'Kellar. Had a gill with him in Wilson's house. Heard no cry of "Doctor, doctor." Soon fell asleep.

The following witnesses out of the crown-list were examined for the prisoner:

Catherine Killoch knows the prisoner, and his wife, who is dead. Was a servant with them. Recollects Mrs Wilson's death. Was sent by her with dinner at half-past one to Watt.

[*By the Court.*]—Wilson was in the house when she went away. Is sure that it was half-past one when she left the house.

James Walmsley works near Wilson's house. Had to pass his door in going to his work. Left work at two o'clock on the day of her death. Saw Mrs Wilson at the counter at that hour.

[*By the Soliciter-General.*]—Saw her through the window, and saw her plainly. She was doing nothing. Thinks she had on a blue gown. Knew it was two o'clock, as the foundry-bell usually rings at that time. There was short time in some of the works then. But that does not alter the dinner-hour. Was not working himself at the foundry.

Dr John Spiers inspected the body of the late Mrs Wilson about four in the afternoon, to ascertain the cause of death. Thought she had died from hanging or strangulation,—from a ligature being applied. A cord might have been used, or a napkin. From the appearances, witness was led to suppose that deceased had been suspended. Some person behind her might have done it. There were no marks of fingers on the neck. Expressed this opinion at the time to the people on the street. The body was quite warm.

The Solicitor-General then addressed the Jury, adverting to the prisoner's prevarications regarding the circumstances connected with the death of his wife; and having alluded to the more prominent points of the evidence, concluded by craving a verdict of Guilty.

Mr Maxwell contended that the charge of previous malice towards his wife had not been proved against the prisoner. The obliquity of the mark on the neck was compatible with, and in the circumstances of the case, favoured the idea of hanging. Persons in Wilson's station of life did not like it to be known that any of their friends had committed suicide,—and this feeling might have induced the prisoner to attempt to conceal the true mode of his wife's death, from all except her brother, to whom he at once admitted it. The statement of Miss Drummond, that she had remarked the bracket all covered with dust, was disproved by the evidence of her brother, who had previously placed his hand upon it, in order to ascertain its strength. Moreover, menstruating women are subject to depression and mental peculiarities; and as one medical witness said, are sometimes pre-disposed to suicide. He called on the jury to give the prisoner the benefit of the doubts which enveloped the case, and to return a verdict of *Not Proven.*

The Lord Justice-Clerk then summed up the evidence, commenting elaborately on the most material portions of it. His Lordship's charge occupied about two hours and a-half.

The Jury retired at half-past eleven o'clock, and in about half-an-hour returned to the Court, when the Chancellor announced that they had found the charge by a plurality of voices, *Not Proven.*

The prisoner, (who appeared considerably elated with the result,) was then dismissed from the bar.

ON THE POSSIBILITY OF BURYING THE LIVING AS DEAD, WHEN CONSCIOUS OF THEIR SITUATION. BY ROBERT DRUITT, Esq.

It does not follow that the mind is incapable of receiving impressions from without, because the body, through weakness, is incapable of exhibiting any signs of such sensibility. Neither does it follow, that reflection and consciousness are extinct, even when the bodily organs of sense have become incapable of receiving any external impressions whatever. The following cases will render the truth of these remarks evident :—

A gentleman, who was most severely affected with cholera in India, told me that when the disease gained the complete mastery over him, he lay utterly deprived of speech and motion, whilst he could hear his attendants, who conceived him to be insensible, speculate on the time of his decease, which they judged to be very near at hand. He then became blind and deaf; but although thus cut off from communication with the external world, and in common language *insensible*, he still retained his consciousness and self-possession, and reflected on his apparently inevitable death. Afterwards, he lost all thought and consciousness, and remained thus on the very threshold of death for some hours; his recovery being an instance of the capriciousness of this terrible disease, which so often set all medical calculation at defiance.

This, then, appears to be an example of the order in which the mental operations cease, in cases of death from slow bodily exhaustion, or from causes not immediately implicating the nervous system.

The reverse appears also to be the order of recovery, in cases of restoration from apparent death.

The son of Madame L——, a milliner in Regent Street, had the small-pox in his sixth year, and was pronounced dead, and put into a coffin. After some hours he became conscious, heard the voice of his mother, who sat by the coffin, and essayed to speak, but, as he afterwards said, was unable to make any movement or sound. At last, however, his mother's attention was drawn to an apparent change in the features; she watched him narrowly, perceived the lips to quiver, and soon he was able faintly to articulate a wish for wine.

For my own part, I believe not only in the possibility of the hasty interment of living persons as dead, but also in the possibility of its being done in some very rare cases, whilst the unhappy victim is conscious of it: and I think that the two brief anecdotes narrated above afford some reasonable probability to the opinion. We are too prone to reject altogether things that are both improbable and infrequent, without giving due weight to the possibility of their occurring, however seldom. I can bring forward instances of persons reputed to be dead by the ignorant bystanders, but restored by persevering measures, which were adopted perhaps against their will; and every practitioner can, as you observe, no doubt do the same.

Whoever has read the history of the poor girl (quoted by Dr Guy from Louis), who imprudently walked a long distance the day after her confinement, and having fainted repeatedly afterwards, was laid out as dead, and carried to the dissecting-room; and next morning (groans having been heard during the night) was found really dead, but half disentangled from the winding-sheet;—or the history of the man drowned at Havre, who was restored to life by the exertions of Dr Douglas, (whose persevering humanity well deserves to be recorded), continued, almost against hope, for eight hours, but successful at last, will agree that lives may be saved by care, and lost by neglect, at the time when life is, as it were, at the very point of departure.—*Provin. Med. Journal*, Jan. 20, 1844.

CASE OF POISONING BY ACONITUM NAPELLUS. BY M. DEVAY.

The subject of this case was a porter in a druggist's shop, who being hurried at his evening meal, swallowed, by mistake, at half-past eight o'clock at night, about forty grammes (nearly one and a half ounces) of an alcoholic solution of aconite, which he had himself placed that morning in a black glass bottle, beside the one containing the wine he used at his meals. He immediately felt a sensation of heat and constriction in the throat, and alarmed for the consequences, applied, in the absence of his master, to the assistant in the shop, who gave him an emetic, but with hardly any effect. His master, on his return, took him to M. Devay, who found him full of alarm at his situation, complaining of his throat, and of a burning sensation along the course of the œsophagus, and unable to rest in one position. The intellect was entire; there was no disturbance of the senses; the tongue was whitish; there was some nausea, but no colicky pains. The effects of the poison were most evident on the organs of locomotion, the lower limbs being incessantly in movement, even during the short intervals when he sat down. From this circumstance, he had, when walking, a peculiar vacillating gait. Fifteen centigrammes of tartar emetic, with some ipecacuan, were immediately administered in water, which produced repeated and abundant vomitings. At 11 A. M. the report was as follows:—"The patient can no longer keep himself erect; he is seized with convulsive movements, in which the upper and lower extremities are drawn backwards, the fingers being strongly bent over the thumb, in the palm of the hand, so that it is impossible to open them; the feet are in a permanent state of adduction; the face is covered with a cold clammy sweat; the eyes turned upwards, so as to leave the whites alone visible, giving a frightful expression to the countenance; no pulsation of the radial and temporal arteries; after continuing about three minutes the convulsion goes off; the patient, whose senses remain entire, except that he is completely blind, is then able to give expression to his sufferings and alarm." At half-past 12 another emetic was given, followed by a lavement, both of which acted freely; drinks acidulated with vinegar were then administered. At 1 A.M. the patient had recovered the sense of vision, but the convulsive paroxysms continued frequent, and more frightful than ever; the temperature of the skin was every instant diminishing; shiverings followed, then an icy coldness; the head was thrown strongly backwards;

the breathing began to get stertorous, with loud mucous rattle; there was insensibility of the wrists and fore-arms, even to pins being run into them, but the intellectual faculties continued unimpaired. The surfaces of the body were now covered with sinapisms, and irritant plasters and a solution of iodine was given internally. The state now described lasted till 3 A.M.; then symptoms of reaction appeared; the pulsations of the heart and arteries were again felt; and under the use of internal stimuli and warm applications externally, the pulse had, in the course of an hour, risen to 125, the surface being covered with a profuse warm sweat, and sensibility had returned to the wrists. The patient was now out of all danger, and in three days was able to leave his room, without any remaining trace of the effects of the poison, excepting a kind of half stupid, astonished expression of countenance.

Observations.—On comparing this case with the few which are recorded by M. Orfila, in his *Traité de Toxicologie*, it is found to present several peculiarities, and some symptoms not before noted. But before mentioning these, it may be well to say something of the preparation which was swallowed in this instance. It was an alcoholic preparation of aconite, made from the fresh plant aconitum napellus, with an equal quantity of alcohol. It had stood about three months; and on the day of the accident, the fluid had been poured off by the druggist. When poured into a glass, it had a strong repulsive odour; so that unless it had been swallowed in a great hurry, the patient never would have taken so disgusting a beverage. He swallowed about a quarter of a glass, which was the quantity of wine he was accustomed to take after his soup; consequently the dose of the poison must have been enormous. The symptoms are divisible into three periods. *First*, that of the *preliminary symptoms*, characterised by agitation, inquietude, and a singular tendency to movement. This continued about three hours, always getting worse; and passing into the *second* period, which may be called that of *nervous symptoms*, where the nervous phenomena reached such a degree of intensity, as to produce convulsions. During this period, there was not present that species of mental alienation which is described by toxicologists; there was only at intervals a kind of stupor, out of which the patient suddenly woke when he wanted any thing. His gestures, on waking, were those of a person awaking after having fallen asleep in the upright position, or sitting in a chair; and at this time he appeared as if about to fall backwards. The temporary blindness, and partial loss of sensation of the upper extremities, are further evidence of the intensity of the nervous symptoms. During the *third* period, that of the *cold*, or *cholera morbus stage*, the danger had reached its height. The death-like coldness, the cold and clammy sweats, the cessation of the pulse, are evidences that a portion of the poison had been absorbed, and was acting directly on the vital powers. Had the emetic first given been sufficiently large to produce abundant vomiting, there is reason to believe that the effects of the poison might have been arrested. A second emetic, therefore, was given immediately the patient was seen by a physician, and this was followed by free action on the bowels. Thus a great quantity of ingested matters was got rid of. When this indication had been fully accomplished, acidulated drinks were given, which would have been improper at an earlier stage. According to Orfila, they are generally injurious in cases of narcotico-acrid poisoning, if given *before* the expulsion of the poison, inasmuch as they are apt to check vomiting, and by dissolving the active principle of the poison, favour its absorption. After 1 A.M. the indications of treatment became different. The point then was at any cost to excite reaction, both at the surface of the body, and in the central organs acting on the circumference. To accomplish this end enormous sinapisms, *(sinapismes monstres)*, combined with alcoholic frictions, and the use of stimulants internally, cannot be too highly insisted on. As to the doses of iodine, (a medicine first recommended in such cases by M. Bouchardat,) it is difficult to say whether, in the present instance, any efficacy is to be ascribed to it; but in a case of such extreme danger, it was thought right to use, simultaneously, all the means which experience had pointed out as beneficial.—*L'Expérience*, December 1843.

MIDWIFERY.

On the Good Effects of Opiates in Uterine Hæmorrhage, connected with Nervous Excitability. By Dr Simon.

We meet in practice with women of a nervous temperament, who at each menstrual period are weakened by a very abundant and prolonged flow of blood. At the same time, there are pains in the hypogastrium and pelvis, darting towards the kidneys, thighs, and fundament, and even affecting sympathetically the mammæ, which taken in connection with the absence of all febrile action, and of all local disorder, except what depends on the flow of the menses, seem decisively to prove that the whole symptoms are of a nervous nature. There is simple nervous excitation of the womb and its appendages. In such cases, the author has seen much benefit from the use of opiates, followed up by a general tonic regimen. Again, the hæmorrhage from the womb which occurs sometimes in the latter months of gestation, as also that which follows delivery, may also depend on nervous excitability. However this idea may run counter to the opinions of French accoucheurs in general, we find its confirmation in the practice of Burns and others, who have recourse to opiates in many cases of threatened abortion and of uterine hæmorrhage. The diagnosis of this class of cases is not very easily laid down; at the same time, it is of importance to be able to recognise them, as all kinds of remedies prove ineffectual except that which is specially adapted to the nature of the case. A nervous constitution, the tendency to hysteria, excessive irritability after delivery; nervous tremblings, irregular and intermittent in their character, and not followed by symptoms of local inflammation; the absence of the symptoms most commonly preceding uterine hæmorrhage, such as inertia of the womb, retention of part of the placenta, &c. are the phenomena, which, variously grouped, may lead us to suspect the nervous nature of the case. Here the English practice of administering opium is the only one likely to do good.—*L'Expérience*, Dec. 1843.

Influence of Opium on the Catamenia. By Dr J. M'Cune Smith, New York.

The author, after detailing several cases, states as his opinion, (in opposition to Pereira and others,) "that opium in daily doses seems to arrest periodicity, without disturbing other vital functions."—*Vide New York Journal of Med*, Jan. 1844.

Cæsarian Operation, in which Mother and Child were Saved.
By Dr Ziehl of Nuremberg.

The woman was 33 years of age, four feet high, and deformed from rickets. She fell in labour at the seventh month. On examination, a curvature of the spine was found to exist, the right shoulder was elevated, the pelvis inclined forwards and to the right, the right crest of the ilium was higher than the left, the thighs were curved, and the belly was very prominent.

The finger introduced into the moist but narrow vagina, easily reached the promontory of the sacrum; the os uteri was considerably dilated; the antero-posterior diameter was but 1½ inch; the pelvis was narrower on the right than on the left side, and the transverse diameter was diminished one inch; the pelvimeter of Baudelocque indicated from the pubes to the spinous process of the last lumbar vertebra, a very little more than four inches. The contractions of the womb were strong; the head was not yet engaged in the pelvis; the pulsations of the heart could be distinctly heard. The child being alive, the perforation of the head was contra-indicated, and even had it been dead, embryotomy would have been more dangerous than the Cæsarian operation, which appeared the only course practicable. This was accordingly performed, the incision being made in the linea alba from the umbilicus to the pubes. A full-grown living male child was extracted. Immediately after, the placenta, which adhered to the fundus, was detached without difficulty. The loss of blood was trifling, no vessel required to be tied, and a protruding portion of membrane was easily reduced. The wound was brought together by five sutures, and the body surrounded with the starch bandage. The woman recovered without any accident, except a miliary eruption and suppuration of the wound, with sphacelation of a little of the cellular tissue. She was able to be out in less than two months after the operation, and the child, though not fed at the breast, is thriving well.—*Gazette Médicale de Paris*, Jan. 1844.

Obstetrical Properties of Powder of Colchicum.

M. Metta has published the case of a woman in whom the powder of colchicum was employed with success as a substitute for the ergot of rye. She had an abortion at the third month, but the placenta not being expelled, and the pains having ceased, ten grains of powdered root of colchicum were given in two doses. Half-an-hour having elapsed without any sensible effect, the same dose was repeated. Soon the orifice of the womb dilated, uterine contractions followed, and the placenta was removed by the hand in a state of decomposition.—*Journ. de Méd. et de Chirurgie*, Jan. 1844.

Diagnosis of Ovarian Disease. By Marshall Hall, M.D., F.R.S.

Dr Hall proposes, before proceeding to any more serious operation, to make a very small puncture through the abdominal parietes, and to introduce through this puncture a silver probe, of the proper length, form, &c., and to pass it all round the tumour, to determine the questions whether there be *adhesions?*—whether the tumour be uniform? And, in the second place, to puncture the diseased mass itself, and introduce a minute trocar attached to a small bottle of India-rubber, of considerable thickness, and withdraw a portion of its *contents*. In this manner we should ascertain important facts, which may influence and guide us greatly in our determination to perform, or to relinquish an operation of the most serious character in surgery.—*Lancet*, 9th March 1844.

PART FOURTH.

MEDICAL NEWS.

OVARIOTOMY—LETTER FROM MR SOUTHAM.

Salford, Manchester, *March* 16, 1844.

Sir,—In the article on Ovariotomy (January 1844,) in your Journal, it is stated, that I am an advocate for the major operation, which "consists in making an incision of from 9 to 20 inches in extent into the abdomen, or, in the phraseology of its patrons, '*from sternum to pubes*,'" &c. (page 56.) On the contrary, I have remarked, that "the major operation does not consist in a direct incision from ensiform cartilage to pubes, ... but in making an opening proportioned to the size of the solid parts of the tumour; and, when the disease is extensive, and wholly or in part fluid, reducing it by paracentesis, either previously to, or during the operation." (Page 8.)

Will you oblige me by correcting the mistake when you again refer to the subject. I remain, Sir, yours respectfully, G. Southam.

[As it may be some months before we again speak of Ovariotomy, we think it right now to give a place to Mr Southam's letter.]

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4. Meyer (F. G., M.D.) Die Lehre von den Frakturen.
5. Hancke (J. W., M.D.) Chlorzink als Heilmittel gegen Syphilis, chronische Exantheme und Ulcerationen.
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8. Himly (E. A. H., M.D.) Die Krankheiten und Missbildungen des menschlichen Anges und deren Heilung.
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10. Virey (J.J.) De la Physiologie dans ses rapports avec la Philosophie, 8vo, 7 fr.
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12. Bonany et Beau (M. M.) Atlas d' Anatomie Descriptive du Corps Humain, 8vo.
13. Lévy (M.) Traité d'Hygiéne publique et privée. Tome 1. 8vo, 7 fr.

(*To be continued.*)

BOOKS RECEIVED.

(*Continued from p.* 184 *of February Number.*)

28. A Complete Condensed Practical Treatise on Ophthalmic Medicine. By Edward Octavius Hocken, M.D., &c. &c. Part I. 12mo, pp. 108. London, 1844.

We are informed in the prospectus that the work will be completed in three parts, and will form a complete practitical digest of Ophthalmic Medicine.

29. Procés Ponchon.—Accusation d'Empoisonnement par le Plomb. Compte rendu des débats des Cours d'Assises de la Haute-Loire et du Puy-de Dôme. [Extrait de la Révue Scientifique et Industrielle.] 8vo, pp. 208. Paris, 1843.
30. A History of British Fossil Mammalia, and Birds. By R. Owen, F.R.S. &c. With numerous Illustrative Engravings. Part I. 8vo, pp. 48. London, 1844.
31. Geology; introductory, descriptive, and practical. By Thomas Austead, M.A., F.R.S., &c., Professor of Geology in King's College, London. With numerous Illustrations, comprising Diagrams, Fossils, and Geological Localities. Part I. 8vo, pp. 128. London, 1844.
32. Practical Manual of the Diseases of the Heart and Great Vessels, a work intended to facilitate and extend the study of these Diseases. By F. A. Aran, Interne of the first class of the Hôtel Dieu, &c. Translated from the French, by W. A. Harris, M.D. 12mo, pp. 296. Philadelphia, 1843.
33. Minor Surgery; or, Hints on the every-day duties of the Surgeon. By H. H. Smith, M.D., Lecturer on Minor Surgery, &c. Illustrated by engravings, 12mo, pp. 403. Philadelphia, 1843.

TO CORRESPONDENTS.

All letters to the Editor ought to be addressed to Dr Cormack, 131 Princes Street, Edinburgh, with the word "Journal" written in the corner.

Papers have been received from Dr Watson, and Dr Dudgeon. Others which were promised have not come to hand.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Observations on the Pathological Elements, and Nature of Constitutional and Local Scrofula. By* EDWARD HOCKEN, M.D., *Physician to the Blenheim Street Infirmary, London.*

MEDICAL men, and the public also, are in the daily habit of speaking of "scrofula" and of "scrofulous diseases;" regarding the first as synonymous with constitutional disorder, whilst the latter implies disease either arising from this state of the system, or modified by it. Ask medical men generally, however, what they mean by this constitutional state of struma, or the nature of the effects or manifestations, and the answer received will be, that the habit is characterised by a deficiency of stamina and enduring tone,[1] indicated by certain appearances of form, feature, and complexion, whilst the local affections are distinguished by languor and want of action; but more certainly by the production of tuberculous matter. Ask the public, and the reply will be, it is a disease of the blood. The question has appeared of considerable interest to me for several years. In the following paper I will endeavour to prove, that struma is a disease of the blood, and that the disease itself consists in the introduction of imperfectly assimilated albumino-gelatinous matter into the circulating mass, and its subsequent separation and expulsion from the system—by the consideration of the facts which induced me to adopt these views.

A great discrepancy of opinion exists among medical authors as to the proximate cause of scrofula. They "may be said," remarks Mr S. Cooper,[2] "to remain, even at the present day, in entire ignorance of it." After examining their discordant opinions, he goes on to say, that "we are brought back at once to the point from which we first started, viz., that scrofula is a disease depending upon some unknown peculiarity of constitution, congenital or acquired, and capable of being excited into action by various causes, as climate, mode of living, &c.," (p. 1156). Such vague opinions will scarcely content the inquiring mind.

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[1] Vide Cyc. Pract. Med., vol. iii., p. 702.

[2] Dict. p. 1154.

In the first place, it may be stated, that one of the chief sources of confusion arises from constitutional and local deficiency of vital vigour and tone being confounded with general and local struma.

It is true, that a deficiency of vital power invariably accompanies the presence of actual struma, and imparts peculiar features to the habit and its effects; but it is equally true that the atony may exist quite independent of the contamination of scrofula. For instance, what is more common than to see the children of a strumous parent or parents, inheriting a great tendency to the habit, indicated by much delicacy of constitution, and certain physical peculiarities, and who yet escape, for a time or permanently, from its evils under skilful management. Such individuals, so long as they are free from actual struma, may suffer from local disease of an atonic character, being modified by the general state, but differing in no other respect from the same disease in a perfectly healthy person. Notwithstanding the truth of these assertions, the constitutional and local diseases are in common parlance termed scrofula and scrofulous diseases.

The following peculiarities are said to indicate struma. In one, (and the most common form,) the skin is fine, the complexion clear and delicate, the hair light, the eye-lashes long, and the intellect precocious; in another, the skin is harsh and dry, the temperament lymphatic, the muscles soft and flaccid, and the mind dull and apathetic; in the third, the skin is dry, foul, and swarthy-coloured, the countenance swollen, and the hair dark, &c. These peculiarities certainly do accompany the actual presence of struma, when the predisposition or the disease itself has been congenital; but when unconnected with other strumous indications, they can show simply a congenitally predisposed condition of system, since it is not possible that actual and active struma can depend on a mere physical conformation of the body.

If we separate the diseases which depend on a deficiency of due vital action from those which alone deserve the specific name of strumous, we find that the latter class are universally, essentially, and invariably characterised by the formation of tuberculous matter: this matter being either retained in the absorbent system, or separated from the blood as an unhealthy secretion.

Tuberculous matter is found by chemical analysis to consist mainly of albumino-gelatinous[1] ingredients, with a few earthy and other saline matters.

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[1] Albumino-gelatinous, or proteno-gelatinous.

Repeated, careful, and minute anatomical researches led Dr Carswell[1] to regard the *mucous* and *serous* surfaces, and the *blood*, as the exclusive seats of the tuberculous matter. He believes, that this morbid product is never deposited in the molecular structure of organs. It always makes its appearance on free surfaces as a product of secretion; and although it may form on serous surfaces, its seat of election is the free surface of the mucous membranes. There, as into the great emunctory of the system, it appears to be separated from the blood, and becomes visible in a variety of forms. As a morbid constituent of the blood we can take no cognisance of the existence of tuberculous matter, otherwise than through the medium of the secretions, or until this fluid has ceased to circulate. Then it is seen to separate from the other constituents, the serum, fibrine, and colouring matter of the blood, and is distinguished from them by the peculiarity of its physical characters.

In confirmed struma, the albuminous and the gelatinous tissues are almost invariably more or less diseased; for instance, the mucous membranes of the respiratory, alimentary, and genito-urinary systems, &c. &c., and the gelatinous structure of the skin, serous membranes, or cellular tissue. I shall have to show presently that their proneness to disease arises from derangement in secondary assimilation, both in the nutrition of these tissues from an imperfectly elaborated blood, and their reconversion and reabsorption into the circulating current.

Besides the separation of many of these diseased states of the albuminous and gelatinous tissues, and the derangements of digestion, and primary assimilation, which I shall presently have to consider as the especial causes of the strumous habit, from the effects of struma itself, and the discrimination of mere predisposition and want of vital energy, it is also necessary to remember that the disordered habit renders the system very prone to take on diseased action, and to suffer from those diseases which also occur in the *strictly* healthy body. When such arise in the scrofulous they are modified accordingly, but differ in many respects from scrofulous affections, properly so called, which spring solely from constitutional causes, or originate from causes which merely determine the seat of disease without in any way affecting its nature.

All these affections are apt to come on, either singly or together, in the strumous constitution; so that we have a disordered condition of primary and secondary assimilation, with more or less disease of the digestive organs, &c., and of the albuminous and gelatinous tissues generally, besides those which are strictly struminous in their nature; viz., where they arise from the deposition of tuberculous matter, or determine the deposition of this matter in particular situations. The difference between those strumous diseases which arise from constitutional causes only, and those determined both by the state of constitution and some external agency, is, that in the first the deposition of tuberculous matter precedes and excites, whatever pathological processes may succeed; in the second, this deposition is determined by previous disease, brought on by external agencies.

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[1] Cyc. Pract. Med. Art. *Tubercle*, vol. iv., p. 254.

Nevertheless, it may be stated, that all strictly strumous diseases are characterised by the presence of tuberculous matter, and that all affections, not in themselves strumous, but modified by this disordered habit, are marked by want of activity and power, and the disposition to excite the formation of tuberculous matter.

If therefore the separation of tuberculous matter from the blood, or a tendency to this separation, be the characteristic feature of all the diseases which affect the strumous constitution, and this diseased secretion consists of albumino-gelatinous ingredients, it is obvious that the source from whence it is derived, and from whence alone it can proceed—viz., the blood—must be itself contaminated with albuminous and gelatinous matters in an unhealthy condition, or imperfectly assimilated to the nature of the blood itself. This admits of direct proof in many ways; for we can detect it, detained on its road to be emptied into the circulation, in the mesenteric glands and lacteals, and in the absorbent glands and vessels of the general system, as well as in the blood itself.

We cannot detect tuberculous matter generally in the blood whilst contained within its proper vessels, but it is frequently met with in the blood contained in the cells of the spleen. The spongy texture of this organ admits of the accumulation of the blood in such quantity that the tuberculous matter can be seen forming in this fluid at some distance from the walls of the cells in which it is contained. In one cell we may see the blood coagulated, in another coagulated and deprived of its red colouring matter, and converted into a solid mass of fibrine, containing a small nodule of tuberculous matter in the centre in a third. It also sometimes happens that the blood is effused in consequence of the rupture of some of these cells, and an opportunity is afforded of witnessing its successive or simultaneous conversion into fibrine and tuberculous matter.[1] .

If it be allowed that imperfectly assimilated albumino-gelatinous matter circulates with the blood, and that its secretion from this source in the shape of tubercle is a characteristic feature of the strumous constitution, I will proceed to consider the sources from whence this contamination is derived, and the supply maintained.

Struma is invariably preceded and accompanied by a disordered condition of the chylo-poietic viscera—strumous dyspepsia, by which the albumino-gelatinous ingredients of the chyle are imperfectly elaborated, and when taken up by the lacteals, either accumulate in some of these vessels or in the mesenteric glands, or find their way, in this unassimilated condition, into the circulation. In the confirmed disease, secondary assimilation is equally disordered, both in the formation of the albuminous and gelatinous tissues, and in their reabsorption and reconversion into blood. In these ways more of this morbid matter is formed, and is either conveyed into the mass of circulating blood, or accumulated in the absorbent glands and vessels.

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[1] Carswell.

Let us in the first instance consider the subject of derangement of primary assimilation.

Dr Prout considers[1] that the reducing portion of primary assimilation consists of three distinct offices:—1st, reduction, by which alimentary substances are chemically combined with water; 2d, conversion, by which alimentary principles are changed, within certain limits, into one another chemically; and, 3d, vitalization or organization, by which crude and *dead* aliments are rendered fit to be brought into contact, and even unison, with the *living* animal body.

In struma it is most probable that reduction and conversion of alimentary substances are fully performed, and that, chemically speaking, albumen and gelatine exist in a perfect condition in the chyle, but that the third, or the vitalizing process, is deficient. In this case, chemistry would detect but little amiss with the chyle in the lacteals, but nevertheless it would contain within itself the germs of a most severe and often fatal disease. Some portions of the albumen and gelatine are probably so imperfectly vitalized as to induce disease in the tissues with which they eventually combine, or are quite unfitted to form a part of the living frame; in which case they are detained in the mesenteric absorbents, or are secreted from the blood as an unorganized and unorganizable product, that, namely, of tubercle.

Dr Prout tells us that when too much food is taken, relatively to the assimilating powers of the stomach, or to the wants of the system in healthy states of the assimilating organs, such superfluous matters are often reduced and converted, and even perhaps partially vitalized, so as to pass with the chyle into the sanguiferous system; from whence (not being sufficiently vitalized, or not being required) they are ejected from the system through the healthy kidney, in the form of lithate of ammonia. Now, in early life, under such circumstances, from causes not clearly known, but probably from original weakness, or deficient action of the assimilating organs and of the kidneys, or rather, in short, of the whole system, the imperfectly assimilated chyle, in passing through the lacteal system, either does not undergo the necessary changes by which chyle is converted into blood, or is malconverted into the comparatively insoluble pseudo-albuminous matter of struma; which, in passing through the lungs, lays the foundation (perhaps, at first mechanically) of tuberculous deposition, and future accretion. Whether or not this be admitted, no one who has studied the subject can deny, that the assimilating organs in strumous and consumptive habits, about this age, are peculiarly deranged, and that great attention to diet (when diet is least apt to be attended to, and all sorts of crudities are taken) will not only sometimes ward off those phthisical attacks, which, when once established, will inevitably run their fatal course, but prevent many nearly allied diseases in after life.

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[1] Stomach and Urinary Disease.

Dr Prout adds in a note, that gout and struma are frequently, if not always, associated; and the gouty chalkstones of old age may be considered as little more than modifications of the scrofulous tubercle of youth, both being alike formed from mal-assimilation of the albuminous principle.

All the best modern authors acknowledge the invariable presence of disturbed digestion in struma. The late Dr Todd states in his *Essay on Dyspepsia*, in the *Cyc. of Pract. Med.*, (vol. 2, p. 654)—in which opinion Sir James Clark fully concurs—that strumous dyspepsia presents a more characteristic feature of this habit of body than any physiognomical portrait which has yet been drawn of it. For, upon whatever temperament the disordered constitution called scrofula engrafts itself, this form of dyspepsia will also there be found; and, therefore, being constantly present with it, preceding and accompanying the various symptoms which issue from it, it would be contrary to all reason to refuse to it an important share in the development of this disordered habit, and in the production of the local affections, which have hitherto too much engrossed the attention, to the exclusion of a proper consideration of the constitutional disease.

The derangement of the organs of primary assimilation excites symptoms which differ slightly in different cases. The abdomen is unnaturally protuberant, and entozoa are very apt to generate in the intestinal canal. The tongue is frequently red at the tip and edges, and the papillæ prominent, whilst the centre is covered with a shining greyish mucous coat. At other times, the whole tongue is covered with a thin opaque mucous covering, through which the papillæ project, or is distributed in more or less circular confluent spots, often with a brownish dry streak down the centre in the morning. The appetite for food and drink is very uncertain. Sometimes the patient is thirsty, with a ravenous appetite, whilst at others there is no desire for food, with unaccountable dislikes and fancies. The bowels are generally confined, with occasional attacks of diarrhœa, depending probably on the irritation which the accumulated matters in the intestinal tract ultimately set up.

The evacuations from the bowels are almost constantly unnatural in smell, colour, and consistence, mainly attributable to the deficiency or morbid qualities of the biliary secretion. The stools are generally of a light, or even white colour, of a clayish consistence, possess a putrid odour, and are mixed with much mucus, undigested or partially digested food, and sometimes blood. Pain or uneasiness is often complained of in the stomach, or in some part of the abdomen. The breath is foul, and there is in general much irritation about the nose and mouth, and sometimes the rectum, so that the child picks and scratches these parts continually, and often occasions unpleasant sores.

The sleep is seldom perfectly calm and undisturbed, but is either broken suddenly with a start, or is restless, with grinding of the teeth, talking, or even screaming. In advanced cases the throat often suffers from repeated inflammations, and the tonsils undergo chronic enlargement—but only in some cases—and in these also, the upper lip enlarges, and the mucous membrane of the nose is almost always engaged. The temper becomes irritable and fretful, and the child cries from slight causes.

Such are the symptoms of primary mal-assimilation. It remains to consider, in the second place, the phenomena of deranged secondary assimilation.

Secondary assimilation consists of processes of two kinds, formative and destructive. By formative assimilation, the different tissues of the body are renewed and formed from the blood. By destructive assimilation, the tissues are again destroyed, taken up again into the circulation, and either converted into other principles for future purposes, or into excrementitious matters.

In confirmed struma, the albuminous and gelatinous tissues being formed from an imperfectly elaborated blood, are far from healthy; the muscular and cellular tissues, &c., are soft, flaccid, and deficient in tone. The general surface of the body is often pale—the skin being in some cases harsh, dry, and subject to eruptions; in others soft, relaxed, and pasty; and in a third set, of a fair waxy appearance, with conspicuous veins—in which latter case there is almost always excitement of the circulation and of the nervous system, producing, in the debilitated state of the general system, a condition of incipient hectic fever, and night sweats. The mucous membranes of the respiratory, alimentary, and genito-urinary organs, are either diseased, or extremely prone to take on diseased actions. Moreover, it must be remembered that, according to the laborious researches of Dr Carswell, the secretion of the tubercle from the blood is confined to albuminous and gelatinous tissues, viz., the surfaces of mucous and serous membranes—to which we might add the skin and muscular system.

By the secondary destructive assimilation of these tissues, albumino-gelatinous matters, imperfectly elaborated and deficiently vitalized, are formed. Those portions which, instead of entering the circulation at once through the capillaries, are taken up by the absorbents, frequently accumulate in the glands and vessels of this system, especially where they are much exposed to external influences, in the solid or organizable form of tuberculous matter. In healthy states of the system, these matters having found their way into the circulation, would be converted by the kidney into lithate of ammonia, and pass off with the urine; but this is not the case in struma, for the urine rarely deposits the lithates, unless the system be in a febrile condition. The urine, it is true, is almost always unhealthy; but unless the patient suffers from hectic, it is apt to be pale and abundant, speedily becoming alkaline, and undergoing decomposition, whilst a white sediment—the triple phosphate of ammonia and magnesia—separates and falls to the bottom as the urine cools.

The general symptoms in all forms of struma, are those of defective power, deficient vital energy or vitality, either with or without excessive nervous irritability. Where the nervous system is morbidly irritable, the slighter or the more confirmed indications of hectic fever are invariably present; for, as I have shown elsewhere,[1] the essential elements of hectic consist of excessive nervous irritability, and deficient general power. The pulse is either soft, feeble, and slow, or preternaturally quick and irritable, but deficient in real power; the muscular system (as a general rule) is feeble, and incapable of much or prolonged exertion, whilst the nervous system in one set of patients is languid and deficient in its functions, and morbidly active and irritable in another.

All strictly *strumous diseases* arise from the deposition of tuberculous matter in certain situations, and the excitation of subsequent morbid processes set up in order to remove such sources of irritation from the system. The reason why particular organs and tissues are, as it were, selected by a disease having so wide a diffusion as the volume of circulating blood, is dependent upon an attraction which subsists between such parts and the peccant materials contained in the blood. Not only are these matters attracted by the affected tissues (either from the nature of their functions, or from injury, or disease going on in them,) but sufficiently so to separate them from the blood, and either to retain and fix them in connexion with the tissues, or to pour them out on free surfaces. In these situations, in the shape of tubercle, they act as foreign matters, and sooner or later excite a series of subsequent processes intended to rid the system of their presence altogether.

From the abundance of the material, and the constancy with which it is renewed, we can readily understand how so many organs are involved in severe cases.

The explanation now furnished of the origin of local strumous diseases most probably applies to all diseases which depend on either a specific virus, or some noxious material circulating with the blood; the local affections which arise from these states, are set up by the mutual and elective attraction between the tissue and the noxious agent—the ultimate aim being to eliminate it from the system. Doubtless such is the case in gout, syphilis, and other diseases. Dr Budd of Bristol, in an able and interesting paper on the symmetry of disease,[1] has proved that the essential condition of each individual lesion is dependent on the detention of morbid matters, and their being held in union or affinity with the part affected.

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[1] Edin. Med. and Surg. Journal, Jan. 1843.

There can be little doubt that several varieties or groups of symptoms are apt to come on in the strumous constitution, but having the essential pathological elements common to all; thus tubercular phthisis, strumous diseases of the bones and joints, diseases of the eye, attack individuals, independently of each other, and rarely occur together in the same person, although no doubt can exist of their dependence on an identical state of constitutional contamination. Tubercular phthisis presents peculiarities, and the more common strumous local affections are rarely present, notwithstanding that the products of diseased action are identical. On the contrary, where the lymphatic glands undergo strumous deposition and inflammation, the ears are sore, and the skin is affected with eruptive and other disorders, diseases of the eyelids and eyes are common, but tubercular phthisis most uncommon.

It must be stated, however, that another strumous disease, viz., strumous conjunctivitis is not solely dependent on strictly strumous causes. The excessive irritability of the ophthalmic division of the fifth pair of nerves, which characterises the disease, seems to arise from the propagation of irritation along the ganglionic system, originating in the abdominal portions, and which, in accordance with a general law in such cases, affects the terminal filaments. The intimate connection which is found to subsist between the ophthalmic symptoms and the state of the digestive organs, leads me to this conclusion. It should be added, that strumous ophthalmia rarely occurs, unless the fifth nerves are suffering from the effects of primary or secondary dentition.

The *causes* of struma favour the views already expressed.

In one form or another, it is the most prevalent affection which affects the inhabitants of damp, cold, and variable climates. Like many other constitutional diseases, the peculiar form possessed by the parents is almost sure to be handed down to the offspring, or a state of system extremely prone to take on similar disordered actions. Indeed, the causes of struma are chiefly those derived from congenital and hereditary peculiarities, but there can be no doubt that the disease may be induced in a healthy individual, provided he be exposed for a sufficient length of time to injurious agencies of sufficient intensity. Thus, it comes on after many of the eruptive fevers, from confinement to an improper diet, whether excessive or deficient either in nutritive principles or mere quantity, especially if indigestible; dark and unhealthy habitations, deficient clothing, and a want of due and necessary exercise. As might be expected, the younger the patient the more injurious do these causes prove.

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[1] Med. and Chir. Transactions, vol. xxv.

ARTICLE II.—*Case of Pannus treated by Inoculation of the Secretion of Purulent Ophthalmia.* *By* ROBERT E. DUDGEON, M.D., *Liverpool.*

The varieties of *Pannus* may be included generally under two heads, the *P. crassus* and *P. tenuis;* the former comprising those which present a fleshy-looking appearance, occasioned by hypertrophy or increased development of the blood-vessels of the corneal conjunctiva, which has sometimes granulations on its surface; and the latter, those which have a dull, yellowish, semi-opaque aspect, with but few blood-vessels visible. It very frequently happens that the pannus belongs partly to the one, and partly to the other species; when this is the case, the *crassus* is generally superiorly, the *tenuis* inferiorly, according to Jüngken and Sichel; and my own observation agrees with theirs. The growth of the pannus is from above downwards.

Another important division of the disease is into acute and chronic; thus, I have seen several good instances of it after a week of severe catarrhal ophthalmia, and not a few of upwards of twenty years' standing.

It may be complicated with many other affections, such as photophobia, (which always exists in scrofulous subjects, and to a greater or less extent in almost every case, as far as my experience goes), ulceration of the cornea, prolapsus iridis, &c.

Pannus is most frequently the result of previous acute inflammation, such as variolous, morbillous, scrofulous, catarrhal, and above all Egyptian and gonorrhœal ophthalmia; it may also be occasioned by the irritation of foreign bodies long continued, such as an undetected particle of dust or other substance in the eyelid, by the irritation to which the eye is exposed in lagophthalmos, by the action of the cilia in entropion, trichiasis, and distichiasis.

In cases of long standing not owing to the irritation of foreign bodies, I have always found present a granular state of the palpebral conjunctiva, to the cure of which the local treatment of surgeons has generally been directed, by the application of stimulants, such as blue-stone, and lunar caustic, or by excision of the granulations.

The cure of acute cases, the result of catarrhal ophthalmia, is in general simple, (although I have always found that even here the characteristic conjunctival granulations exist): the same may be said of those cases caused by the irritation of a foreign substance, and the inversion of the cilia, the removal of the former, or a successful operation for the latter generally sufficing.

It is the chronic cases, the sequelæ of some of the above inflammations kept up by the granular state of the palpebral conjunctiva, which generally defy our local applications and prove the opprobria of our eye-dispensaries, and the number of remedies proposed in all works on ophthalmology for the eradication of these granulations, sufficiently shows the difficulty of doing this.

Whilst attending the clinique of Professor Jaeger of Vienna, in the winter of 1841, my attention was directed to the cure of this obstinate affection by inoculation of the eye with the secretion from purulent ophthalmia. From what I there saw, and still more from what I have since read in the work of Piringer,[1] I was led to entertain a very favourable opinion of this mode of treatment.

Without entering into any details, for which I refer the reader to Dr Robert Hamilton's paper in this Journal (July 1843; p. 579,) I may content myself by remarking, that the treatment is applicable to all cases of pannus, whether tenuis or crassus, whether accompanied or not by photophobia, ulceration of the cornea, ancient prolapsus iridis, or opaque spots; that according to Piringer it signifies little whether the matter employed for inoculation be taken from an ophth. gonorrhœica or neonatorum,[2] provided it be procured from a mild case.

Inoculation of pterygium would be of no use, indeed the chances are, that it would destroy the eye; it is necessary to make this remark, for some writers (*e. g.* Scarpa, and those who copy him), confound pterygium with pannus; but it should be borne in mind that the former is merely a growth of a polypous nature on the surface of the conjunctiva scleroticae and cornea, whereas the latter is an actual degeneration of the the conjunctiva corneæ itself.

Inoculation would be equally useless or hurtful in the case of simple opacity of the cornea, but the existence of partial opacity along with pannus, is no contra-indication to its employment, although, be it remembered, it will not remove these opacities.

I have only treated one case, and although I should have liked to have had several before publishing the result, yet I do so now with the hope that the highly favourable issue may induce some of my medical brethren who enjoy more extensive opportunities than myself, to employ this method of curing a most troublesome and distressing chronic disease, which Jaeger and Piringer's practice shows to be almost universally successful.[3]

Catharine Evans, aged 21, stout and full-blooded. She stands with her head bent forwards on her chest, her brows drawn over her eyes, which are but half open, and wink and water frequently.

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[1] Die Blennorrhoe am Menschenauge. Grätz, 1841. A very concise abstract of this work will be found in the *British Journal of Homœopathy*, vol. i. No. 4. pp. 387–398. *Fas est ab hoste doceri.*

[2] I am convinced that the ophthalmia purulenta neonatorum is always caused by inoculation, as I have never yet met with a case in which the mother had not either leucorrhœa or gonorrhœa.

[3] In Jaeger's experience, about 6 per cent. only of the eyes submitted to this treatment proved unsuccessful,—in Piringer's, not quite 3¼ per cent., and with the latter the eyes were only not cured of the pannus, they were nowise injured by the operation.

The eyelids externally seem swollen, when she looks towards the window they close spasmodically, and can only be opened when she has her back to the light; on opening them forcibly towards the light a gush of hot tears ensues. The cornea is highly vascular and presents a dull irregular appearance; it is more vascular and opaque superiorly than inferiorly; in the former situation there are some granulations. The conjunctiva scleroticae is very vascular. The upper eyelid is with difficulty everted, owing to its great thickness, which is occasioned by a large mass of fleshy granulations, of a flattened form, and bearing a striking resemblance to the surface of a healing ulcer. The inferior palpebral conjunctiva is very much injected, has a velvety appearance, but is destitute of granulations. This description applies to both eyes, the right is if any thing the worst. The health of the patient is otherwise good, appetite excellent, bowels and catamenia regular. She says that when two years and a half old, she had measles, and being an orphan and but ill looked after, her eyes were much neglected. She was first affected with weak watering eyes, for which she was taken to sundry dispensaries and private practitioners, but they continued gradually to grow worse. It was hoped that on the occurrence of the catamenia a favourable change would take place, but the contrary was the case, and since her fourteenth year she has not been able to see even large letters, nor to do any but the coarsest work. During this long period she has been subjected to almost every variety of treatment; the granulations have been touched with blue stone, burned with caustic, repeatedly cut off; she has been blistered, bled, leeched, cupped, purged, &c. What gave her greatest relief was the excision of the granulations, but that was but temporary. Among other *remedies* tried, was getting touched by a supposed miraculous hand at St Helen's; at that time she was totally blind; notwithstanding the virtues of this miraculous hand, she did not regain her sight until the granulations were again cut off. Ever since her fourteenth year she has been unable to bear a strong light, but with respect to this and the other symptoms she is sometimes better and sometimes worse.

Having procured some matter from the eye of an otherwise healthy infant, affected with purulent ophthalmia, on the 29th September 1843, at 3 o'clock, an hour after taking it from the infant's eye, and whilst still moist, I introduced it between the lids of the right eye.

30th September, 3 o'clock.—Not the slightest symptom of the inoculation had taken place. I left orders to be sent for should any peculiar appearance be observed about the eye.

2d October, 2 o'clock.—I was to-day informed that, about an hour after I had left on the 30th, the patient began to complain of pain in the right eye, and yesterday morning, on awaking, the eyelids of that eye were very much swollen. She omitted to send for me, and to-day, when I saw her, the eyelids of the affected eye were very much swollen and red; the patient complains of some pain not very severe, and there escapes from between the lids a sero-purulent-looking fluid. Owing to the extreme swelling, it was impossible to observe the state of the eyeball. I prescribed three leeches to be applied round the eye, the bleeding to kept up by fomentations; thereafter, a moistened cloth to be kept constantly on the eye. An ounce of epsom salts to be taken immediately, afterwards small doses of tartar emetic, so as to maintain nausea.

4 o'clock. The swelling has been much relieved by the leeches, which bled well. The patient is rather faint.—*To have low diet.* —*To keep her bed.*

3d October. The right eye continues in much the same state as at last report, still a little pain is felt in it. The salts operated freely, and she took the tartar emetic mixture, which excited slight nausea. I scarified slightly the palpebral conjunctiva. Cornea not visible. The left eye was not affected.—*Two more leeches to be applied to the eye.—Continuetur mistura.*

4th October. The swelling is very much diminished; discharge of muco-purulent fluid; considerable photophobia; cornea distinctly visible, imbedded in the chemosed sclerotic conjunctiva. The patient has no uneasiness in the eye, except when it is touched. I inserted a drop of a six-grain solution of nitrate of silver.—*Contin. mist.*

5th October. Swelling of lids still further diminished; discharge profuse; cornea visible; left eye not affected. Applied nitrate of silver in solution to the conjunctiva and lids externally.—*Omit. mist.*

6th October. As at last report, quite easy; discharge very copious; bowels open.

7th. Complains of pain in the eye and head; has not had a motion to-day.—*Appl. hirud. ij.—Ht. magn. sulph. ℥ss.*

8th. Feels quite relieved from all pain to-day; leeches bled freely; bowels opened by the salts; discharge very copious—purulent; still a great deal of chemosis.—*Appl. sol. nit. argent.*

9th and 10th. The eye still improving.

11th. The left eye has become affected.[1] Patient thinks that none of the matter from the right eye could have got in, as she was particularly careful in cleansing it. The left eyelids are slightly swollen; the conjunctiva scleroticæ is chemosed; not very red; discharge serous; photophobia. The right eye is not so much swollen; the palpebral conjunctiva has the appearance of an ulcerated surface; discharges freely. Omit the wet applications to the right eye, and apply instead a piece of dry linen, to be carefully cleansed as before. *Wet applications to the left eye.* As the bowels were not opened to-day, I ordered *half an ounce of salts.*

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[1] Piringer states rather dogmatically, (p. 189) that when one only of two eyes affected with pannus, or other chronic inflammation, is inoculated, the blennorrhœic process affects the other eye about sixty hours after the first; and he further observes, (p. 190) that when the ophthalmo-blennorrhœa invades one eye naturally, the other will certainly be affected on the third, fourth, fifth, seventh, or, at the latest, the ninth day, but it will be seen that in this case the left eye did not take on the disease until the eleventh day after it had affected the right, and when the process in the latter was already on the decline.

12*th.* Left eyelids very much swollen and œdematous; considerable pressing pain in the eye; photophobia; secretion muco-purulent; great chemosis. In the right eye, the purulent process is still going on with the same activity.—*Three leeches to the left eye; continue the cold application; put a drop of vinum opii in the right eye; continue the other application. The mist. ant. tart. as before.*

13*th.* The pressing pain removed by the leeches; the swelling considerably abated; a soreness still remains, along with photophobia.—*Appl. hirud. ij., angulo externo oculi sinistri.—Cont. mist.—To the right eye vin. opii as before.*

14*th.* Swelling of left lids considerably diminished; still some heat and tenderness; photophobia great; continue cold applications. Right eye as before.

15*th.* The eye is much less tender to-day; not so hot; still photophobia; sclerotic conjunctiva of both eyes nearly alike, i. e. swollen up into a livid fleshy mass; discharging profusely. The corneæ of both appear as if sunk in the middle of this mass, and seem to be discharging also. The conj. palpeb. has lost the appearance of distinct granulations, and appears like the uninterrupted surface of some kinds of ulcers.—*Cont. mist. et collyr.*

18*th.* Both eyes still profusely discharging. Patient complains of disagreeable taste in the mouth; feels dreadfully tired with lying so long in bed. There is still great photophobia, but the right eye can be partially opened by the patient herself. To get some beef-tea or soup for dinner.—*Omit. mist.*

19*th.* Feels better to-day; disagreeable taste gone; soup relished; can partially open both eyes; discharge still continues; photophobia not quite so intense as before.—*To get meat for dinner.*

21*st.* General health and feelings greatly improved; the sclerotic of right eye begins to glimmer through the chemosed conjunctiva.—*To get up to-morrow, and sit in an airy room. Diet to be as when in health.—Cont. lotio.*

23*d.* I was to-day much astonished at the rapid progress which the eyes had made since last visit. She can now open both eyes freely before the window, which she was unable to do before the inoculation was performed. The sclerotic of both eyes begins to appear of a beautiful white. The cornea of the right eye seems to have lost completely its vascularity, although it is still rough and irregular; that of the left remains vascular, but not so much so as before inoculation. No disagreeable sensation in the eyes at all. Patient in excellent spirits.

27*th.* The improvement has been progressing steadily since last report. She can now see fully as well, if not better, than before the inoculation, and says she feels her eyes daily gaining strength. There are still some fleshy granulations at the external and internal angles of the right eyelid; the left seems to be more free from pain.

The vascularity of both corneæ is very much diminished; indeed, there is scarcely any in the right; the left still contains some of it in the superior half. The blenorrhagic process has not yet ceased. —*Cont. collyr.*

November 8th.—The specific action is still going on in both eyes, though very slightly. The under half of both corneæ is quite clear, and the dimness of the upper half diminishing. She can see print of a moderate size, (read it she cannot, as she has long since forgotten her letters) and can look at any light without inconvenience.

After this the eyes gained daily in strength, lost their vascularity, the granulations disappeared entirely, as also the vascularity of the cornea,—merely a slight haziness remaining at the upper part, which is ordinarily covered by the eyelid, but not interfering in the least degree with vision. She continued to use a wash for several weeks after this, but has now discontinued it for some months. Instead of walking in the open air, with her head bent forwards, and her eyes scarcely open, as she used to do, she now walks erect, and does not experience the smallest inconvenience from the brightest sunshine. She can do the minutest needle-work, and is no longer dependent on the care and attention of others. From the rapid progress she made when she got out of bed, and had generous diet, I am inclined to think, that the antiphlogistic treatment was persevered in rather longer than there was occasion for, but the severity of the disease, and the alarming appearance it presented, deterred me from allowing her to return, so soon as she might have done, to her usual mode of living.

LIVERPOOL, March 1844.

ARTICLE III.—*Case of Poisoning with Corrosive Sublimate; with Medico-Legal Remarks. By* JAMES WATSON, M.D., *Physician to the Royal Infirmary of Glasgow.*

Henry M'Donald, a journeyman shoemaker, aged about 35, was admitted into the medical wards of the Glasgow Royal Infirmary under my charge, on the 8th of February 1844, shortly before the visit. It appeared that in a fit of drunkenness and passion, he had, on the previous evening, swallowed more or less of twopence worth of corrosive sublimate, supposed to be about a drachm. He stated afterwards that he kept the salt for a little in his mouth, and then spat it out, but that some of it might have gone over. He was seen shortly after by a surgeon, who administered emetics and albumen ovi freely. The stomach-pump was not used.

When admitted, he was very weak and exhausted; the pulse was 120, and small; the hands and feet were cold and livid; he had frequent slight rigors; his mouth was much swollen, his lips purple, and protruded from the swelling, and there was a constant flow of saliva; the external fauces, particularly on the right side, and also the right side of the neck, were much tumefied, and he complained exceedingly of pain and sense of constriction along the course of the œsophagus ; the epigastrium and abdomen generally were very painful, the uneasiness being somewhat increased on pressure, but unaccompanied by particular tension or enlargement; thirst intense; tenesmus incessant, dejections being merely bloody mucus; micturition also frequent; the urine passed in drops with much pain; cough trifling, and breathing moderate; no head symptoms; the pupils were perhaps slightly more contracted than usual.—*A turpentine enema immediately; to be followed shortly after its operation by one of starch gruel, with a drachm of laudanum; this latter to be repeated from time to time as the tenesmus may require.—An ounce of castor oil, with forty drops of laudanum, beat up with mucilage and white of egg, to be given in two portions at the interval of two hours.—A blister to be applied to the epigastrium, and a weak alum solution to be used as a gargle.—The body to be kept warm, and beef tea, eggs, and arrow-root, given for food.*

9th. Pulse 88, of fair strength; heat of body, good; tongue dry and reddish, but not loaded; mouth less swollen, but external fauces same as yesterday; pain of internal fauces and œsophagus still great, and thirst intense, with more vomiting; matter ejected greenish, and somewhat acid; had two pretty natural stools, with less tenesmus, after the turpentine enema, and none since; pain of epigastrium said to be gone; abdomen soft, bearing pressure well; makes urine more freely, and with less pain; salivation gone, and no mercurial fœtor; mind distinct, and pupils natural; no complaint of head; dislikes the soup.—*To have flour porridge instead of the soup. The other treatment to be continued, with the addition of ten grains of calcined magnesia thrice daily.*

10th. Vomiting still frequent; four natural-coloured stools; pulse 84, of good strength; thinks himself better; no epigastric or abdominal pain; the urine is passed easily, chiefly with the stools; swelling of mouth, fauces, and neck, is much diminished, and the pain in the course of the œsophagus is greatly relieved; no mercurial fœtor; gums seem slightly swollen, and the inside of the lower lip and cheek stretching towards right tonsil, and the tonsil itself are coated with a tough lymphatic exudation, which is a little loose at the edge next the mouth; beneath this the cuticle is slightly abraded at one or two points.—*Omit the magnesia; and turpentine injection.—Let the other treatment be the same; with the addition of three drops of hydrocyanic acid every three hours whilst the vomiting continues.—The blistered surface to be dressed with issue ointment.*

11th. Yesterday evening the vomiting became more urgent, and has continued so, with troublesome hiccough; pains all gone; swelling of fauces and neck nearly so; no mercurial fœtor nor salivation; indeed the mouth is rather dry, with much thirst; lymphatic exudation separating; tenesmus returned; stools reddish and slimy; urine passed with stools, with some return of pain; pulse 76, very soft;

tongue reddish and clean, but dry; body of good heat; blister hardly discharging; on the whole, the patient is evidently much weaker.—*Another blister ordered to the epigastrium:—and four ounces of wine.—Treatment otherwise continued.*

12th. Pulse 70, very small and soft; patient evidently still weaker; vomiting and hiccough unabated; stools thin and slimy, but not so frequent, though tenesmus considerable at the time; urine passed with more pain; no mercurial fœtor; tongue still clean, and more moist, but thirst very great; exudation loosening; mind entire; no cough.—*The anodyne enema was ordered, with four grains of powdered opium in place of the laudanum, to be repeated after every second stool, and ⅔ of a grain of powdered opium every fourth hour by the mouth, whilst the vomiting continued.—The wine was increased to six ounces.*

13th. Vomiting, hiccough, and tenesmus gone, but has had several watery stools, along with which he has passed a small quantity of urine with little pain; complains of nothing but debility; the mind is quite entire, and the pupils are natural; pulse 64, rather firmer than yesterday, but the patient is still evidently fast losing ground; he takes no food, but relishes his wine; blistered surface over epigastrium presents a very dark appearance, like incipient gangrene.—*Stimulants were increased to ten ounces of wine and four of whisky.—A poultice was applied to the blistered surface.—The enemata are to be continued, and the other treatment omitted.*

14th. From the time of the visit yesterday, the patient continued to sink; and died at 8 o'clock A.M.

Inspection of the body thirty-six hours after death.

1. The brain, both in its coverings and substance, was free from disease.

2. The lungs and heart were also sound; with the exception of the former being much congested, and the mucous lining of the trachea and larger bronchi being of a deeper red than usual.

3. The liver, gall-bladder, kidneys, and urinary bladder, were of normal appearance; with the exception of the latter, which was much contracted in size, and had two small patches of its lining membrane, near the entrance of the urethra, of a deep red colour.

4. The pleuræ and peritoneum were free from disease.

5. The alimentary tube was removed from the body, and laid open throughout its whole extent. The tonsils, particularly the right, were sloughy; the under surface of the tongue was coated with some remains of the lymphatic exudation mentioned as having lined the under lip and cheek; and shreds of the same were attached to the lining membrane of the œsophagus, here and there, throughout its length; and towards its lower part, nearly the whole circumference was coated; the supposititious membrane being here thinner, denser, and more firmly adherent than farther

up. This exudation ended abruptly before approaching the cardiac orifice.

The whole inner membrane of the stomach was more or less injected, but especially of the upper and left portions. There was much coherent mucus of a greenish colour, but the most accurate examination could discover no abrasion. The pyloric extremity of the stomach, the duodenum, and jejunum, were not much darker than usual; but the ileum, particularly towards its lower end, the caput cœcum coli, and the whole length of the colon and rectum, were highly injected, and smeared with mucus similar to that found in the stomach. The lining of the lower extremity of the rectum was particularly dark, almost continuously black; but here also the surface was not abraded. By accident, the ingesta found in the stomach and upper intestines, which I had intended to have tested, were thrown out.

The teeth were quite firm; the gums were not ulcerated. The external surface of the body was of the usual appearance; the blistered part, as mentioned in last report, was covered with a dark slough, as if it had been destroyed by caustic potash.

Remarks.—In the above case, the notation of symptoms during life was made at the bedside of the patient, and the narrative of the *post-mortem* appearances was written down immediately after the inspection, so that nothing has been introduced into the history from recollection; only a few verbal alterations, and these of no manner of importance, have been made on the statements as entered in the hospital report-book. As to the treatment, whilst it was such as I considered most likely to benefit the unhappy individual, it is only of importance to remark, that it could in no manner interfere with the natural traces left by the poison on the tissues of the body.

The points of importance illustrated by this case are,—

1st, That although the patient lived seven days after having swallowed the poison, no real salivation took place. The gums were only slightly swollen; there was no mercurial fœtor; the teeth were firm; and the flow of saliva was confined to the first day after admission into the hospital, when it might be partly occasioned by nausea, but especially by the irritation of the fauces, and difficulty of swallowing.

2d, That the effects of the poison were confined altogether to the alimentary canal, or nearly so.

3d, That the whole tract of this canal was not equally acted on. The œsophagus, the left half of the stomach, the lower part of the ileum, the colon, and especially the rectum, were chiefly affected; and which parts, although the seat of violent action, were free from abrasion.

4th, The small size of the urinary bladder, and the irritated spots on its inner surface, and the reddened state of the lining membrane of the larger bronchi, showed that these parts had participated, though to no great extent, in the general irritation of the mucous membranes. And,

5th, There having been little or no vomiting at the time of this person's admission, and afterwards the matters ejected having been chiefly ingesta hardly swallowed, it did not appear of importance to examine them chemically. Those portions of the alimentary canal which were chiefly affected by the poison, were given to Dr Rainy, Professor of Medical Jurisprudence in the University of Glasgow, who kindly undertook their chemical examination.

The following is his report:—"I have not been able to discover any corrosive sublimate in the portions of the alimentary canal which you gave me some time ago. In my examination, special attention was directed to the right tonsil, and to a sloughy patch on the tongue, both of which seemed to have been principally acted on by the poison; but even in these, no trace of its actual presence was detected.—*Moore Place, 4th March* 1844." In a case of poisoning, therefore, with corrosive sublimate, no exculpatory argument can be founded on the circumstance of no trace of the salt having been detected in the tissues of the body; as in this case, where the quantity of the poison swallowed was considerable, and its action on various portions of the alimentary tract abundantly intense, its presence to any appreciable extent could not be detected by the most careful examination.

PART SECOND.

REVIEWS.

Lectures on the Eruptive Fevers. By George Gregory, M.D., *Physician to the Small Pox and Vaccination Hospital at St Pancras, &c. &c.* 8vo, pp. 258. London, 1843.

These lectures were delivered in St Thomas's Hospital, in January and February 1843. They are published nearly in their original form, and contain the result of the author's experience during his twenty years' official connexion with the Small Pox and Vaccination Hospital: he cannot, therefore, be accused of attempting to enlighten others before having had most ample opportunities of forming correct ideas of the eruptive fevers. Our limits prevent us from entering fully into the author's views, but we are induced to lay the table of contents, and a few of his opinions before our readers, in consideration of the excellence of the work, and the importance of the subject of which it treats.

In thirteen lectures, the subjects are discussed in the following order:—*Lecture* 1*st*, Character and affinities of the eruptive fevers. 2*d*, Character and management of the eruptive fevers. 3*d*, Early history and phenomena of small-pox. 4*th*, Statistics and pathology of small-pox. 5*th*, Management of small-pox. 6*th*, Rubeola, or measles. 7*th*, History and phenomena of scarlet fever. 8*th*, Pathology, statistics, and treatment of scarlet fever. 9*th*, Erysipelas. 10*th*, History, phenomena, and practice of vaccination. 11*th*, Pathology and results of vaccination. 12*th*, Varicelloid, herpetic, and miliary eruption. 13*th*, Non-contagious efflorescences.

The exanthemata are usually described as fevers with which eruptions are essentially associated. Their character is inflammatory. This is exhibited in nineteen out of every twenty cases of small-pox and measles. The nervous form of fever occasionally characterizes scarlatina and erysipelas: the malignant form of fever is sometimes witnessed both in small-pox and scarlatina. The author thinks that the vaccine poison, mild though it be, may poison the blood. He lately attended a case of petechial cow-pox, the only one he is aware of on record. Exanthematous diseases are divided into four stages, the incubative, eruptive, maturative, and secondary: the first is sometimes attended, and sometimes not, by symptoms: the term *secondary stage* expresses febrile exacerbation, recurring when the symptoms ought normally to subside.

The character of exanthematous fever is uniform under every possible variety of external circumstance. It attacks in a similar manner all ages, sexes, and nations; and it seems to be modified by idiosyncrasy, or a habit of body engendered artificially. There is no exanthem which does not show secondary complications, no organ or texture which may not be dragged into participation with the primary affection.

No principle is more generally recognized, than that small-pox and measles necessarily and unavoidably occur to every man once in the course of his life; but there are still some countries in the world which have not as yet been visited by the exanthemata. Small-pox, measles, and scarlet-fever, are to this day unknown in Australia and Van Dieman's Land; and even in this country, they have sprung up since the commencement of the sixteenth century.

The author's remarks regarding the principles which ought to guide us in the management of eruptive fevers generally, we will give in his own words; his views we consider correct, and the passage affords a fair illustration of the general style of the work:—

"The exanthemata cannot be cut short. Common fever, accidentally arising, may be cut short by blood-letting, by an emetic, or a brisk purgative; nay, sometimes by the cold affusion; but an exanthema cannot. It has been six, eight, or twelve days breeding. It must run its course. You cannot reasonably indulge the hope of preventing, or even moderating eruption, either on the skin or throat, by active measures, in the early stages of small-pox or scarlet fever. The legitimate objects of treatment at this period, are to lessen inordinate constitutional tumult, to subdue plethora, to check accidental congestions and complications. These are much more likely to occur when the heart and arteries are overloaded with blood, and urged to inordinate exertion, than when the mass of blood is in a pure and healthy condition. Always remember, too, when you bleed early in an eruptive fever, that the disease has a long course to run, and be moderate in your demands on the system.

"You perceive, then, that the great objects of treatment in these disorders are less directed to the specific malady than to those congestions and superadded affections by which the steady march of the exanthem is impeded. Hundreds of cases, whether of small-pox, measles, or scarlatina, may be safely conducted to a close, without a grain of medicine. And why? Because the febrile action, or zymotic process, in such cases, goes on quietly, being neither too violent on the one hand, nor, on the other, deficient in the necessary power. To give active medicine here is hurtful. It deranges nature. But the case is different when the febrile commotion or effervescence is inordinately violent, as when small-pox is ushered in with phrenitis, measles with epistaxis, scarlatina with excessive angina. Purgatives, leeches, cold lotions, bleeding from the arm, may then be required.

"On the other hand, should the vis vitæ fail—should the first effect of the poison be to reduce the powers of life so low, that the disorder cannot develope its regular and appointed series of phases—when the extremities are cold, the eruption tardy—when syncope occurs, or actual relapse is threatened,—then is the time arrived for stimulants, such as brandy, white wine negus, camphor, ether, hot bottles to the feet, mustard poultices to the epigastrium, and a warm bath.

"You will hear people talking largely of the debility left by the exanthemata, more especially by small-pox and measles. This idea is not to be adopted by you without inquiry. It is very true, that both small-pox and measles do often exhaust the frame greatly, and by such debility occasion other disorders to spring up, which flourish only in a state of constitutional weakness and cachexia. All forms of scrofula are thus developed; but you are not to set this down as an universal law. The truth is, not many of the exanthemata last long enough to induce real debility. What men call debility is, in nine cases out of ten, secondary fever. If the theory of debility be adopted, and beef tea, wine, bark, and tonic medicines be administered, you feed the fever, and make bad worse. Not long ago, I saw peritoneal inflammation occasioned by acting on this false notion of exanthematic debility. Secondary fever must be reduced, like other fevers, by purgatives, diuretics, and low diet. You cannot safely stimulate in secondary fever."

The history, phenomena, statistics, pathology, and management of small-pox, occupies sixty-two pages.

Regarding the origin of this disease, there is little certainly ascertained. It appears to have travelled from the east towards the west, but with what degree of rapidity we know not. It reached England about the close of the ninth century, and the American continent about 1527, devastating in the first instance Mexico, and afterwards spreading with great virulence over the whole of that vast country.

Inoculation was first practised at Constantinople about the year 1700, and fourteen or fifteen years later the subject was brought under the notice of the profession in this country; but little attention was paid to it until the daughter of Lady Mary Wortley Montague was inoculated, in 1721. In 1746, hospitals were instituted, for the purpose of placing the advantages of inoculation in the power of the poorer classes of society.

In 1798, Dr Jenner announced the discovery of vaccination, and in 1840, the practice of inoculation was declared illegal by the British Parliament.

Dr Gregory thus disposes of the question,—Do any circumstances warrant us in recommending inoculation on scientific principles?

> "Concurring most cordially in the opinion, that the practice of inoculation by *unqualified* persons ought to have been put down, (not in 1840, but forty years before that), by stringent legislative enactments, I still remain of opinion, that under certain circumstances it is the duty of the medical man to recommend inoculation. These circumstances do not, indeed, often occur; but I will name to you four of these cases. 1. When a person has been found, from peculiarity of habit, unsusceptible of vaccination. 2. When new sources of vaccine lymph are introduced, and it becomes of importance to ascertain that the new virus is efficient. 3. When young persons, (between the ages of 10 and 20), vaccinated in early life, are proceeding as cadets to India. 4. When small-pox unexpectedly breaks out in a country district, at a time when vaccine virus is not to be obtained. Other cases equally strong may be put."

For our part, we think the legislature are right in forbidding inoculation under any circumstances. We believe few cases will be met with in which the vaccine virus will not take effect if applied properly, and in a recent fluid state.

A large accumulation of facts enables the author, he thinks, to fix the period of incubation of small-pox at twelve days of pyrexia, and two of fever—fourteen in all: the extremes may be stated at ten and sixteen days. How are we to prognosticate that the fever then breeding is variolous? 1*st*, By the sickness at stomach, which yields when the eruption shows itself. 2*d*, By the pain in the back, which is frequently very intense. 3*d*, Encephalic symptoms accompany the initiatory fever of small-pox in certain cases. Somnolency, or an epileptic fit, are often noticed in children. 4*th*, Syncope and excessive prostration of strength are the leading features in some cases. 5*th*, Great anxiety of the præcordia, deep sighing, and dyspnœa, are occasionally noticed. The duration of the eruptive fever is never less than forty-eight hours; it may be protracted to seventy-two hours, and the whole surface may not be occupied for three complete days.

The following table shows the period at which 168 cases of small-pox proved fatal, at the Small-Pox Hospital, in 1828-1829:—

Days.	Fatal Cases.	Days.	Fatal Cases.	Days.	Fatal Cases.	Days.	Fatal Cases.	Days.	Fatal Cases.
3d	1	9th	15	15th	7	22d	3	29th	1
4th	5	10th	14	16th	5	23d	1	31st	1
5th	10	11th	16	17th	3	24th	3	32d	1
6th	5	12th	11	18th	3	25th	1	35th	1
7th	11	13th	11	19th	1	27th	1	38th	1
8th	27	14th	5	20th	2	28th	1	39th	1

With the following table, which shows the deaths by scarlet fever throughout England and Wales within ten quarterly periods, extending from 1st July 1837, to 31st December 1840, we must bring the remarks on these lectures to a close:—

Quarterly Periods.	1837.	1838.	1839.	1840.
January, February, March, ...	...	1380	1,655	4,537
April, May, June, ...	...	1104	1,620	4,370
July, August, September, ...	1033	1260	2,529	4,874
October, November, December, ..	1487	2058	4,521	6,037
Total Deaths, ...	2520	5802	10,325	19,816

These lectures form a very valuable book of reference as to historical details, statistics, and treatment. The author's style is so clear and distinct, that his opinions can never be mistaken. We must add, however, that a good deal of irrelevant matter and poetical lore are introduced, which, though useful perhaps, to keep alive the attention of an audience, might have been expunged with advantage before the prelections were committed to the press.

Homœopathy Unmasked; being an Exposure of its Principal Absurdities and Contradictions: with an Estimate of its Recorded Cures. By Alexander Wood, M.D., &c. 12mo, pp. 196. Edinburgh: 1844.

"Witches and impostors," says Bacon, "have always held a competition with physicians." Since the period in which Bacon flourished, the more general diffusion of knowledge has in a great measure driven sorcery and superstition from the contest; but the "impostors" are just as abundant, and as successful in knavery, in our day, as they were in his. The tricks and devices of the olden time have become stale and unprofitable; but not so quackery, for there is ever a succession of newly-invented systems of pretended cure, rapidly succeeding the favourite one as it begins to sink into disrepute. Modern empiricism loves to assume the garb of science, to ape philosophy, and load the tables of its proselytes, and proselytizing allies, with Reviews and Magazines: thus, Morrison the vegetable pill-maker carried the nostrum which gained him his enormous wealth, into every clime by means of his monthly magazine, "*The Hygeist*:" the apostles of the Cold-Water-Cure have a voluminous periodical literature exclusively their own, besides a well-trained staff of penny-a-liners, whose business it is, whenever opportunity offers, to foist water-puffing paragraphs into the newspapers: Homœopathy also has its literature of lies and nicely dressed up sophistry. It is remarkable enough, and not a little instructive, to find that the three recently invented forms of quackery to which we have referred, rest their claims not only on alleged cures, but on the truth of certain pretended physiological and experimental doctrines. In fact, they shelter themselves in what is unfortunately still the stronghold of popular ignorance,—the structure and functions of the human body. Were the principal facts connected with these subjects to be understood by society at large, modern quacks would soon be appreciated as they deserve, and be driven with the witches into congenial obscurity. Were this kind of knowledge adequately diffused, to "unmask" homœopathy would be a needless task; for we firmly believe, that the only real remedy for quackery in all its Proteus-like forms, is the communication of such information to all who consider themselves educated. This would place the experienced and scientific physician in the high and legitimate position in the estimation of all, which he deserves to hold; and prevent the spectacle,—so shocking to every honest man,—of unstable brethren prostituting a respectable station, and openly selling their integrity for the *golden* reward of coquetting with fashionable empiricism,—with which perhaps they are too timid, or too wary, at once to make common cause.

Having already stated our views pretty fully and freely on the subject of homœopathy, in the Number for March 1843, (p. 218),[1] we will not now enter upon the whole subject, but content ourselves by transferring two or three good passages to our pages.

The homœopathists speak scornfully of

THE COMBINATION OF MEDICINES.

"But all the ridicule which Hahnemann employs, might be turned with equal effect against his own school; for if there be a danger in combining three medicines, producing different effects, do we escape it by prescribing one which produces *nine hundred and thirty* different symptoms! As a necessary result of the great number and conflicting character of many of the symptoms, which these (*simple!*) substances produce, we find one of them,—nux vomica,—is used in such different diseases as the following:—Chronic vomiting, headach, chronic cough, diarrhœa, constipation, piles, dyspepsia, &c. &c. Nay, as if determined to contradict every thing he ever writes, Dr Black illustrates his principle of simple formulæ by such a report and prescription as the following:—

"'*August* 26. A great deal better. Piles have almost entirely disappeared. Ant. Crud. followed by Lach, Sepia, Sulph. Nux. v".' (*Disp. Rep.* p. 17.) *Five different substances!!* and this, notwithstanding Hahnemann has declared, that 'to prescribe compound prescriptions is the height of empiricism!!' We were not before aware, in what precise place in the scale the homœopathists put themselves." P. 95.

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[1] And from which, we are glad to observe, that Dr Wood advantageously quotes at considerable length.

The Operation of Infinitesimal Doses on the Healthy and Diseased.

"It is in the system of infinitesimal doses that we find the fullest development of homœopathic absurdities. An admirable synopsis of the views of Hahnemann on this subject, is given by Mr Pereira, which we subjoin as the most concise statement we have met with.

"The homœopathists believe that 'the effects of medicines do not decrease in proportion to the diminution of the dose. Thus, eight drops of a medicinal tincture do not produce four times the effect of two drops, but only twice; hence he uses exceedingly small doses of medicines.'

"'Proceeding gradually in his reductions, he has brought his doses down to an exiguity before unheard of, and seemingly incredible. The millionth part of a grain of many substances is an ordinary (homœopathic) dose; but the reduction proceeds to a billionth, a trillionth, nay, to the decillionth of a grain, and the whole materia medica may be carried in the waistcoat pocket.'

"'The following is the method of obtaining these small doses:—Suppose the substance to be a solid; reduce it to a powder, and mix one grain of it with ninety-nine grains of sugar of milk; this constitutes the *first attenuation*. To obtain the *second attenuation*, mix one grain of the first attenuation with a hundred grains of the sugar of milk. The *third attenuation* is produced by mixing one grain of the second attenuation with ninety-nine grains of sugar of milk. In this way he proceeds until he arrives at the *thirtieth attenuation*. The following table will show the strength of the different attenuations, with the signs he employs to distinguish them:—

Signs.		Strength of One Grain.
1.	First attenuation,	one hundredth part of a grain.
2.	Second „	one thousandth „
I.	Third „	one millionth „
II.	Sixth „	one billionth „
III.	Ninth „	one trillionth „
IV.	Twelfth „	one quadrillionth „
V.	Fifteenth „	one quintillionth „
VI.	Eighteenth „	one sextillionth „
VII.	Twenty-first „	one septillionth „
VIII.	Twenty-fourth „	one octillionth „
IX.	Twenty-seventh „	one nonillionth „
X.	Thirtieth „	one decillionth „

"Here is a tabular view of the doses of some substances employed by the homœopathists:—

Charcoal, one or two decillionths of a grain.
Camomile, two quadrillionths of a grain.
Nutmeg, two millionths of a grain.
Tartar emetic, two billionths of a grain.
Opium, two decillionths of a drop of a spirituous solution.
Arsenious acid, one or two decillionths of a grain.
Ipecacuanha, two or three millionths of a grain.

"'These doses are given in pills (globuli), about the size of a poppy seed.'

"To doses of medicinal substances such as these, is the life of patients to be entrusted, when suffering under severe disease!

"Dr Black seems quite aware, that in those who are acquainted with the powers of medicines, such a system will excite only derision, and accordingly confesses, 'that the employment of minute doses in homœopathic practice has tended much to retard its progress, and has frequently been a stumbling-block to those who might otherwise have been inclined to examine the subject.' (P. 81.) Nay, he even condescends to hint, 'that homœopathy and the employment of minute doses are two separate things.' (P. 81.) So that every disciple can have his dose of homœopathy accurately proportioned to his gullibility.

" But we confidently assert, that homœopathy *cannot be practised* if its professors are allowed to employ doses which have an *undoubted effect* on the animal economy, because, were they to give to a patient, labouring under an acute disease, any medicine which *really* had the power of producing a similar disease, the probable consequences would be, a fearful augmentation of the symptoms, or, in a severe case, death itself. This is no hap-hazard statement, but is deliberately given as the experience of the homœopathists themselves.

" ' With large doses, patients may be treated homœopathically, BUT THEN WE MAY FREQUENTLY EXPECT A POSITIVE INCREASE OF THE DISEASE, OR EVEN DEATH. The *experience* of such painful and dangerous aggravations, in no case necessary to cure, led Hahnemann to employ minute doses.' (P. 82.)

" That is to say, that Hahnemann practising homœopathically with medicines, which are admitted to be capable of producing some effect on the human body, caused a ' positive increase of the disease of his patients, and in some cases even death ;' and, therefore, was driven to the employment of *doses which the chosen advocates of homœopathy admit are inert.*

" Professor Döppler has reviewed the subject; and, as his conclusions are quoted by Dr Black, we need go no farther. The learned professor attempts to show, that the ' superficies of medicines is increased by trituration ;' and ' proceeding on the moderate assumption, that by each trituration the particles are reduced to the hundredth part of their previous size, we shall find,' he says, ' the surface of a medicine, originally the cube of an inch, will become at the third trituration equal to two square miles; at the fifth, to the Austrian dominions; at the sixth, to the area of Asia and Africa together; and at the ninth, to the united superficies of the sun, the planets, and their moons.' (*Black*, p. 88.)

" What a pity the learned Döppler did not give a physical expression to the decillionth!

" Döppler concludes, ' We have said sufficient to show, that if medicines act in virtue of their mass, the doses used in homœopathy must be quite inert; but if in proportion to their surface, they may be of tremendous potency.' (P. 88.)

" If their potency be tremendous, why are they safer than ordinary doses given homœopathically; and how was it that Hahnemann killed his patients with doses of ordinary power, and found it safe to administer *the same remedy* after he had conferred on it ' this tremendous potency?'

" But the homœopathists, when they tell us, that ' it has been undeniably proved by the experiments of Hahnemann and the experience of his followers, that the latent power of medicine is developed by trituration and solution,' (*Black*, p. 306), evidently endeavour to make the public credit what they do not believe themselves, and, therefore, merit the title of impostors as well as empirics; for if they really believe that their medicines are more potent than they appear, why tell us to bear in mind,—

" ' That when medicines are to act on that part of the organism which is already affected, as in homœopathy, the doses must be proportionally small to what they would be were the medicines to act on a part which is perfectly sound, as in allopathy.' (P. 83.)

" Their medicines acquire, says Döppler, ' a tremendous potency;' and so much ' did Hahnemann see the efficacy of trituration, that he warns us against exalting too much the latent virtues of medicines.' (P. 85.) If they have then acquired this ' tremendous potency,'—this ' exaltation of latent virtue,'—how is it that Dr Black admits, ' that a healthy man may devour the contents of a whole pocket case of homœopathic medicines, without feeling the least alteration;' and only announces, ' that the peculiarity of these remedies is, not to operate upon healthy, but only upon individuals whose disease bears to them a specific relation and affinity.' (P. 85.)

" Is this power also conferred on them by trituration? Or how are medicines so potent, prevented from acting on any individual, healthy or diseased?

" To sum up—Döppler, the chosen advocate of the homœopathists, gives, as the result of his investigation, ' That the doses used in homœopathy are either of tremendous potency, or quite inert;' there is no middle course. We ask them,—If of tremendous potency; 1*st*, How are they safer than our doses of the same substance, for which we claim no such power? 2*d*, How have such tremendous doses no sensible effect on a healthy man, when doses of the same substance, whose powers have not been so prodigiously developed, act with admitted power? 3*d*, If they are so 'tremendously potent,' why is it necessary to suppose that the body is in disease specially susceptible to them, in order to account for their action at all, when the *same* substances, given in the *same* diseases, in doses not possessing this potency, acted so powerfully as to 'augment the disease, and even, in some cases, cause death?'

"It is plain, that though the homœopathists make the assertion, they do not really believe that their medicines have any such powers, and must therefore allow their advocates to say for them, that 'they must be quite inert,' p. 88.

"But not only does Professor Döppler, whom, in his purely scientific character, as a professor of physics, Dr Black calls in to bear evidence in favour of the infinitesimal doses, declare against them; but Dr Black himself,—for reason will sometimes assert her supremacy in the midst of the grossest absurdities,—unconsciously betrays *his real* opinion, and admits that they cannot cure disease. 'Medicines,' he says, 'can only cure disease, in virtue of the power they possess of modifying the state of the health,' Black, p. 57. But 'a healthy man may devour the contents of a whole pocket case of homœopathic medicines, without feeling the least alteration, because the peculiarity of these medicines is not to operate on the healthy,' Black, p. 64. The proposition stands as follows:—Medicines can only cure disease in virtue of the power they possess of modifying the state of health, the peculiarity of homœopathic remedies is, not to operate on the healthy; therefore they cannot cure disease.—Q. E. D.

"Truly all must agree with Dr Black, 'that the attempts to account for the efficacy of small doses are incomplete,' p. 39.

"But even were we, for the sake of argument, to admit that the process of trituration, and the other means employed in the preparation of the homœopathic globules, did confer on them additional powers, new obstacles would arise to oppose our reception of the system. It is evident, for example, that the medicines so prepared must vary much in activity, and that those substances which in ordinary practice are found to act powerfully on the system, will, when exhibited homœopathically, *if they have any effect at all*, require to be given in doses much smaller than the dilutions of substances which have no such active properties,—so that a relation should still subsist between the allopathic and the homœopathic doses. This, however, is not the case, as the following examples will prove:—

"Arsenic is given by homœopathists in doses of one or two globules, each containing the decillionth of a grain. The same dose is given of kali carbonicum (carbonate of potass). The one of these substances allopathic practitioners are accustomed to exhibit in doses of one-eighth of a grain, the other in doses of from thirty to sixty grains, that is, two hundred and forty, or four hundred and eighty times stronger. Charcoal also, which, as we have before shown, can be taken safely in doses of one pound daily (5760 grains), is given in the same dose as arsenic!

"Again, tartar emetic is given in doses of two globules of the sixth dilution (one millionth of a grain). Carbonate of ammonia in the same dose; squills in the same dose; while allopathic practitioners find the appropriate doses of these substances to be, tartar emetic, one quarter to one half of a grain; carbonate of ammonia, five to twenty grains; squills, one to three grains; and yet these three different substances are given in the same dose by the homœopathists. And their whole materia medica is rich in similar illustrations.

"Theoretically, the doctrine of small doses is admitted by Dr Black to be inexplicable; practically, we fear, it must be confessed to be inapplicable, for we find Dr Black stating:—

"'What dilution should be administered is a question still, in a measure, *sub judice*, and which has given rise to many an unseemly discussion, the acrimony of which would lead us to suppose that it was a vital point in homœopathy, and that the selection of the dose, instead of being subordinate, was paramount in importance to that of the remedy.'

" 'One party have maintained, that the high dilutions, for example thirty, are the best in all cases; another party have considered the lowest as only serviceable; and that the practice of the former was nothing better than a "médecine expectante." The discrepancy of two such opposite opinions may be partly explained by the circumstance, that the former class have had generally chronic diseases to treat, the latter acute; and also that, in a number of cases, where the medicine is well chosen, the difference of dilution is really imperceptible, and that the thirtieth succeeds as well as the third.'

"In this sentence, the whole question of the small dose system is virtually abandoned; for, if the thirtieth dilution (one decillionth) succeeds as well as the third (one millionth), it is plain that neither can have any effect at all. For what does such an assertion amount to? An absurdity so gross that language fails to express it. It is to assert, that if a medicinal substance be divided, not into nine million separate atoms, but into atoms nine million separate times; that is to say, that if the substance be divided into a million of parts, and one of these parts be divided into a million again, and so on till the process of division by a million has been repeated nine times, that one of the atoms, resulting from the last division, will cure disease as readily as the original atom before the division was practised at all. To give a faint idea of the monstrous absurdity which such a statement involves, we may add, that the proportion between the thirtieth and the third dilution, somewhat corresponds to that between a drop and 25; 834,986; 772,486; 772,486; 772,486; 772,486; 772,486; 772,486; 772,486 hogsheads of any fluid. Equally rational would it be to assert, that a drop of wine was as potent in its influence, as 12; 917,493; 386, 243; 386,243; 386,243; 386,243; 386,243; 386,243; 386,243 pipes of the same fluid; which is to state that one drop, divided among all the inhabitants of the globe, would produce in them as astounding an effect as if each mortal among them were to swallow, for his individual share, 30,755; 936,633; 913,062; 472, 348; 298,538; 674,729; 150,919 gallons; the population being estimated at 840 millions.

"But with regard to this last illustration, the homœopathists, anticipating doubtless the universal denial from experience, of their principle, if applied to our best known and simplest stimulants, wine and ardent spirits, compassionately suffer us to retain our prejudices regarding these, and still to believe, that their heating and stimulating properties are not increased by even any quantity of water which may be added; le vin et l'alcohol, les plus simples de tous les excitans, sont les seuls dont l'effet échauffant et irritant diminue quand on les étend de beaucoup d'eau.'—(Hahnemann, Nov. Org., Trad. par. Jourdan, p. 294.) Surely this madness savours of method.

"Of such minute division, no language can give even the slightest idea, and though calculations may express it in figures, yet they fail to convey any mental conception of its amount.

"A billion of moments have not yet elapsed since the creation of the world, and, to produce a decillion, that number must be multiplied by a million seven separate times.

"The distance between the earth and the sun is ninety-five millions of miles; twenty of the homœopathic globules, laid side by side, extend to about an inch, so that 158,400; 000,000 such globules would reach from the earth to the sun. But when the thirtieth dilution is practised, each grain is divided into 100,000; 000,000; 000,000; 000,000; 000,000; 000,000; 090,000; 000,000; 000,000; 000,000 parts, so that a single grain of any substance, in the thirtieth dilution, would extend between the earth and the sun 1,262; 626,262; 626,262; 626,262; 626,262; 626,262; 626,262; 626,262; 626,262 separate times! We make no comment.

" 'When,' says Whewell, "our conceptions are clear and distinct, when our facts are certain and sufficiently numerous, and when the conceptions being suited to the nature of the facts, are applied to them, so as to produce an exact and universal accordance, we attain knowledge of a precise and comprehensive kind, which we may term science.'

"Does homœopathy stand the test?

"It claimed to be 'one of the positive sciences; it has been seen that even were its propositions true, this claim must be rejected; it professes universality for its curative law, stating, at the same time, that it was discovered by experience, the two claims being incompatible; it ridicules allopathy, and yet calls for its aid in a large proportion of its cases, and in all its more urgent ones; it professes to be founded on induction, and yet cannot adduce a single fact that will bear investigation, or a single inference that does not shrink from reason; it attempts to lean upon analogy, but the straggling legs, refusing to act in concert, sprawl asunder, and the mighty incubus falls to the ground helpless, in the imbecility of its inert infinitesimal doses.

"Its law it professes was discovered in accordance with the rules of the inductive philosophy, and under this its advocates seek to shelter it from all investigation. Bacon himself was not ignorant of the opportunity which his system gives for such deception, and, as if seeing the misty form of homœopathy rising in the horizon of the future, he thus prophetically describes it:—

"'The empirical philosophy produces opinions deformed and monstrous resting in the narrow confines and obscurity of a few experiments, whence such a philosophy appears probable, and in a manner certain to the men who daily converse with these experiments, and thereby deprave their imagination, whilst to all others it seems incredible and vain. We foresee, and venture to foretell, that if mankind, being admonished by us, shall at length in earnest betake themselves to experience, and lay aside sophistical doctrines; even then, through an over eager and precipitant hurry of the understanding, and the desire it has of bounding or flying to generals or first principles, there will be great danger from these narrow philosophies.'" Pp. 96—110.

Dr Wood, after showing that the propositions of homœopathy are neither necessary nor contingent truths, considers their claim for being believed in, upon the authority of those who testify in their behalf. The homœopathic witnesses he proves to be deficient in all the qualities necessary to witnesses:—viz., 1*st*, "Sufficient knowledge of the fact attested; 2*d*, Disinterestedness; 3*d*, Integrity; and, 4*th*, Veracity."[1]

In the appendix we find the following

"ILLUSTRATIONS OF THE SYMPTOMS SAID TO BE PRODUCED ON HOMŒOPATHISTS BY CERTAIN SUBSTANCES.

"1*st*, *Common Salt*, called by the homœopathists 'natrum muriaticum,' is one of the remedies which, according to Jahr, are most employed by their practitioners; and it is also one of those which, according to the same author, have had their pathogenetic effects confirmed by clinical observation. Of the actual existence of the symptoms which it produces there can, therefore, be no doubt among homœopathists, for not only has it been observed to create them in a healthy person, but to remove similar symptoms, where they exist as diseases. On the pathogenetic effects of salt (those which are produced in a healthy person), most of our readers have probably experimented for themselves, and will, when they read the formidable array of symptoms which it must have *undoubtedly* produced in them, be inclined to parody the speech of M. ———, and exclaim, 'What! have we been suffering these tortures all our lives, and never known it?'

"We may premise, that the homœopathic dose of this remedy is two globules, each containing the decillionth of a grain, and that its action is found to continue for forty or fifty days after the infinitesimal dose is swallowed. What then are the symptoms to which, as swallowers of salt, we must so often have been subjected?

"'Palsies'—'Swelling of the glands'—'Nocturnal pains, suspending the respiration, and producing a sort of semilateral palsy'—'Great wasting of the body'—'Eruptions on the skin, with lancinating pain'—'Continual shivering'—'Violent pain in the head'—'Yellow colour of the skin'—'Typhoid fever, with weakness, dryness of the tongue, with great thirst'—'Melancholy sadness, with abundant weeping'—'Hatred of those from whom injuries have long ago been received'—'Irascibility, and violent rages easily provoked'—Desire to laugh.' [The salt must surely have been Attic.] 'Weakness of the memory, and excessive forgetfulness, the experimenter blunders in speaking and writing' [as all homœopathists must ever do, when speaking or writing about their science]. 'Vertigo, beating pains in the head, with stupefaction'—'Falling out of the hair, even of the beard.' [An extraordinary confirmation of this symptom is found in the popularity which, according to recent advertisements, Circassian Cream has obtained, as a remedy for baldness. Circassia, it is well known, is entirely dependent upon Russia for salt, and since the recent hostilities, the importation of that article has been prevented; hence, from the abandonment of salt, the extraordinary growth of their hair, falsely attributed to the use of the cream; and, therefore, this application, supposed to have succeeded so well in its native regions, fails in this country, which is cursed with an abundant supply of salt.] 'Inflammation of the eyes'—'Near sightedness.'—'Squinting, partial blindness' (Hemiopia)—'Discharge of matter from the ears'—'Inflammation and swelling of the nose'—'Excoriation in the inside of the nose'—'Yellowness of the face'—'Ulceration of the chin'—'Swelling of the submaxillary glands'—'Putrid inflammation of the gums'—'Spasm of the throat'—'Inflammation of the throat'—'Loss of appetite, especially for bread, and repugnance for tobacco smoke'—'Acid eructations, nausea, vomiting, and cramp in the stomach'—'Constipation, colic, and bloody flux'—'Cough, with bloody expectoration'—'Difficulty of breathing, with pulsation of the heart'—'Paralytic weakness, and weight of the arms'—'Warts upon the palms of the hands'—'Burning of the feet,' &c.

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[1] Kirwan's Logic, vol. i. p. 238.

"Will any one, after the perusal of this list of horrors, venture again on the use of salt? Yes, we assure them they may. Homœopathy has not left them in this miserable condition, but has provided an antidote, and that antidote is ARSENIC.

"2d, *Chamomile.*—This substance is used as an aromatic bitter, and, according to Pereira, is rarely employed in powder, 'on account of the inconvenient bulk of the requisite quantity.' So much for its inertness when taken by allopathists. When swallowed by homœopathists, it produces, according to Jahr, a long catalogue of symptoms, from which we extract the following:—'Excitability of the nervous system, which becomes remarkably sensible to external impressions'—'Catalepsy, with the "Facies Hippocratica"'—'Epileptic convulsions, with retraction of the thumbs, and foaming of the mouth, preceded by colic, and followed by sopor'—'Intermittent fever, with nocturnal exacerbation'—'A disposition to weep, and utter lamentations, with great readiness to take offence'—'The experimenter cannot bear to be spoken to, or to be interrupted in conversation;' and yet, strange to say, manifests 'taciturnity and repugnance for conversation; and appears in a state of distraction and inattention, as if plunged in meditation'—'The eyes and eyelids become red and inflamed'—'The ear is so sensible, that music is insupportable'—'The parotid glands are inflamed and swollen'—'The nostrils ulcerated'—'The face attacked with erysipelas'—'The lips excoriated and ulcerated'—'The patient suffers from toothach, with pain so insupportable as to drive him to despair'—'The tongue moves convulsively'—'He is tortured with excessively painful colic'—'Endures constipation and diarrhœa,' though whether they alternate or exist at once, the homœopathists do not inform us. 'There is short cough'—'Asthmatic paroxysms'—'Shooting pains in the chest'—'Pains in the kidneys'—'Convulsions in the back,' with 'paralytic weakness in the arms, hands, and feet,' while the 'head is twisted backwards by tetanic spasms.' Oh science, what dost thou demand of thy votaries!

"3d, *Nutmeg.*—We need scarcely describe the effects of this substance when taken by ordinary individuals, but our readers will be surprised to find that there are individuals of so susceptible a temperament, as to be unable to swal-

> low it without enduring an accumulation of symptoms, of which the following gives but a faint idea:—'Great painful sensibility of the whole body'—'Agitation of the muscular system'—'Malignant fever, with putrid diarrhœa'—'Bloody Sweat'—'A constant flow of facetious ideas,' 'with a strong disposition to make a fool of every thing.' [We might have suspected that this experimenter had made a fool of his master, had it not been already done to his hand.] 'Idiotcy and madness'—'Roughness and cough'—'Shortness of breath'—'Contraction of the throat, as if from suffocation," &c. Pp. 147—150.

We congratulate Dr Wood upon the ability which he has displayed, both as a writer and as a reasoner, in the little work before us. His style is pungent, and his arguments are logically irrefragable. When we say this, however, we are not prepared to approve in the abstract, of regular physicians seriously refuting by argument empirical systems. The deluded are, with some few exceptions, too ill-informed to be thus enlightened; and every one knows that controversy and opposition gain for quacks what they most desire—notoriety. The restless ingenuity of avaricious men is ever inventing new and popular kinds of empiricism, by which to supersede the favourite system, when the gullibility of the multitude has been exhausted *quoad hanc*. For example, in the city of Edinburgh, where some months ago, homœopathy was in as high favour as were some years previously Morison's pills—even in Edinburgh, (where the fashion in quackery does not change so rapidly as in London and other towns which shall be nameless,) hydropathy is rapidly supplanting it. The blind, the lame, and *malades imaginaires*, now despise the infinitesimal doses, and go full of faith and fees to the landlords[1] of the Water-cure Inns within reach of steamer, road, or railway.

Medicines, their Uses and Mode of Administration; including a complete Conspectus of the three British Pharmacopœias, an Account of all the New Remedies, and an Appendix of Formulæ. By J. Moore Neligan, M.D., *Physician to Jervis Street Hospital, and Lecturer on Materia Medica and Therapeutics in the Dublin School of Medicine.* 8vo, pp. 432. Dublin, 1844.

We are glad to find that our brethren of the sister kingdom are beginning to bestir themselves about the cultivation of the Materia Medica. We say, "beginning to bestir themselves," advisedly; for though there is no country in Europe that has produced such a long and splendid line of anatomists and surgeons, yet it must be admitted, even by the most national of Ireland's warm-hearted sons, that, with the exception of the learned and accurate Barker, and one or two others, Ireland has done little to advance the department of pharmacology, without which the science of medicine, viewed as the healing art, would be nothing else than an ingeniously devised theoretical abstraction. Thus, taking Dublin as the centre of Irish medical literature, while we willingly admit that there is no city in the world which presents a more brilliant galaxy of anatomical and surgical talent; and while there can be no doubt that the eminent men who compose that galaxy could not have arrived, even in the department they so much adorn, at the pre-eminence they so deservedly occupy, without great research into the science of therapeutics, still we maintain, that so self-glorified are the majority of our Irish brethren, with the reminiscent achievements of the dissecting-room, that they magnify surgery, to the exclusion of every thing else, and care little about excelling in the department of pharmacology. The root of this evil may be traced to the all but universal taste diffused among the students in Dublin, who conceive that the perfection of their adopted calling consists in *cleaning* some misshapen *triangle*, or settling some disputed *boundary*, and who think that it is an unpardonable waste of time, and a gross misapplication of study, to attend to such unimportant matters, as the physiological action and therapeutic application of opium and cinchona. This exclusively anatomico-surgical taste, accordingly, is apt to grow with their growth, and to gather strength with advancing years, until at length it becomes permanently and indelibly incorporated with their whole professional constitution. Many honourable and conspicuous exceptions, no doubt, there are, but undoubtedly the national *indoles*—to use a favourite expression of Marshall Hall—is not in favour of the apparently uninviting minutiæ of the materia medica. Hence it is, that while the world of medicine has been dazzled by the brilliant achievements in anatomy and surgery, of Colles, Kirby, Harrison, Carmichael, Jacob, Hart, Cusack, Crampton, Hargrave, Porter, and Houston, with many others—all of them, be it observed, with the exception of the lamented Colles, still living, and in one city too, and that city containing but the sixth part of the population of London—while these are willingly conceded, it must, at the same time be stated, however mortifying it may be to Irish vanity, that we look in vain among our brethren across the channel, for rivals either to Guibourt, Vogt, and Soubeiran, abroad; or to Pereira, Thomson, Paris, and Christison, at home. True, that there is not a man of science in any corner of the globe who requires to be told that Graves and Stokes are Irishmen; but we beg it to be understood distinctly, that it is not of the want of *physicians*, and good ones too, but of *pharmacologists*, in Ireland, that we are complaining; and therefore it is that, entertaining the opinions we have now so freely expressed, we rejoice to find that a new work on Materia Medica has issued from the Irish press, which, though short and concise, is accurate, lucid, and eminently practical.

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[1] *Medical* (?) landlords.

In the preface, Dr Neligan informs us that his object

"has been to furnish a concise view, but as complete as possible, of the different substances, both simple and compound, which are deemed worthy of a place in the materia medica. While, therefore," continues Dr N. "sufficient attention has been bestowed on the different articles contained in the three British pharmacopœias, an account is also given of those remedies of more recent introduction, which although not officinal, are important agents in the treatment of disease." *Preface.*

Seeing how the fashion as to medicines has been changing of late, our author may possibly be correct in devoting a portion of his work to the "remedies of more recent introduction;" but we are decidedly of opinion, that for all practical purposes, the list of approved "officinals" is long enough already, and that were it reduced still farther, neither science nor mankind would suffer greatly by the diminution. Encumbrances might thus be got rid of, and many undeservedly obsolete and almost unheard of substances be judiciously replaced. Within the last few years, numerous accessions certainly have been made to the pharmacopœias—some of them truly valuable and trust-worthy—but the testimony of the sober and unbiassed portion of the profession, regarding the greater part of such interlopers, undoubtedly is, that they have not realized the expectations which were held out by those who acted as their sponsors, and warmly recommended them to general acceptance. Thus we have had *monesia* thrust upon us lately, as a cure for *all* kinds of exudation from relaxed mucous surfaces, and debilitated capillaries; the novelty, of course, took for a while, and became so fashionable, that no case of chronic diarrhœa, or fluor albus could be encountered without it; already, however, the popularity of the drug is on the wane; already does the new astringent *mattico* threaten to drive *monesia* into the shade; *mattico*, to all appearance, will soon be in the ascendant, as the fashionable remedy for chronic fluxes, and passive hæmorrhages; yet we predict, that in a short time, *mattico* will share the fate of *monesia*, and that after increasing experience shall have shown us the folly of being led away by the popular current, we shall fall back on the old remedies—oak-bark, tormentil, and chalk—leaving it to the rising generation of that day, to amuse itself, if it thinks fit, with the last importation, in the drug line, from South America or China. Now, let no one suppose that we are desirous to repress the highly meritorious exertions at present being made, to increase our acquaintance with the varied substances which Providence has placed at the disposal of science, for the benefit of suffering humanity; far be it from us to indulge in such a feeling; but surely it is not inconsistent with the most enlarged desires for the advancement of science and the amelioration of human misery, to guard the younger members especially of the profession, against being captivated by substances, merely because they are new and exotic, or to warn them against too rapidly abandoning—one day to resume, however—those less lauded agents on which experience has stamped the impress of efficiency, merely because such agents are old and common, and possibly indigenous and untaxed.

The work before us being "intended as one of reference for the practitioner, and as an outline of Materia Medica for the student," the author, while fully admitting the advantage and interest derived from a knowledge of the natural and chemical history of medicines, has very properly refrained from following the example set by some writers on the same subject, of loading his book with misplaced disquisitions on matters pertaining more to chemistry, zoology, and botany, than to materia medica. In describing each medicinal substance, the following plan is adopted:—

"1st. The officinal appellation and English name of each article is given; and in the case of a vegetable substance, the native country and botanical classification of the plant from which it is obtained. For the advantage of the student, the most important characters of each medicinal plant are also concisely described.

"2d. The physical properties.

"3d. The chemical properties.

"4th. The mode of preparation. Under this head the processes of the three British pharmacopœias are given in full.

"5th. The adulterations, and the manner in which they may be detected.

"6th. The therapeutical effects, and the uses of the substance in the treatment of disease.

"7th. The dose and mode of administration. Under this head, all the officinal preparations of the British pharmacopœias, as well as many of those ordered by the continental and American colleges, are introduced.

"8th. The incompatibles.

"9th. In the case of poisons, the antidotes and mode of treatment." *Preface*, pp. 6, 7.

Dr Neligan has adopted the physiological classification of the materia medica, in preference to the natural-historical one given by Pereira, and taught in his lectures, we believe, by Christison. No doubt, the former appears the more practical and useful to the parties for whom this work is more particularly intended; but it cannot be considered as free from defects, and may often prove embarrassing to those for whom it has been specially adopted. So great is still our ignorance of the manner in which medicines produce their effects, and so many agents cause so many different and totally opposite results, that we are not sure but that the natural-historical classification is the better one, even for the student.

As our limits will not permit us to devote much more space to this excellent compendium, we shall conclude our notice of it with two extracts, as specimens of the style and manner of execution, premising that the letters C. P. and TH. E. in the remarks on *Calumba*, refer, the former, to chemical properties, the latter to therapeutic effects.

C. P.—Calumba contains a crystalline, very bitter neutral principle, which has been named *Calumbin*, and on which its medicinal properties depend, about a third of its weight of starch, a trace of volatile oil, gum, wax, &c. Its bitter principle is dissolved out by cold and boiling water, by alcohol, and by ether. As boiling water dissolves out some starch, a warm infusion becomes cloudy as it cools; the Edinburgh college, therefore, employs cold water for preparing the officinal infusion.

"*Adulterations.*—Bryony root, and the root of *Frasera Walteri* (American or false calumba) have been at times sold for the true calumba root. The former may be at once detected by its disagreeable, bitter, somewhat acrid taste; the latter by its infusion becoming dark green on the addition of a sesqui-salt of iron, an infusion of the true root remaining unchanged by the same test. Another false calumba is met with in the French drug market, which is known by its containing no starch, a cooled decoction not being affected by tincture of iodine.

"TH. E.—Calumba is an excellent bitter tonic, being slightly aromatic, but free of all astringency. It is most usefully employed in the various forms of dyspepsia, depending on want of tone in the digestive organs, and in irritability of the stomach accompanied with vomiting, when there is no tendency to inflammation present. It is also used, with much benefit, to allay the sympathetic vomiting of pregnancy, and that which depends on diseases of the other abdominal viscera. In the advanced stages of diarrhœa and dysentery, when the use of tonics is indicated, calumba is an excellent remedy." P. 340.

Nothing else, we are persuaded, than the desire to make his work as concise as possible, has prevented Dr Neligan from adverting a little more fully than he has here done, to certain facts not generally known, or if known, not so frequently availed of as they ought to be, in regard to the power possessed by calumba, of arresting, not only the vomiting produced by disease, but that also which follows the administration of emetics. This latter property of the drug was made the subject of direct experiment by Schwilgué, who gave calumba, after vomiting had been induced by tartar emetic and ipecacuan. He found that it frequently succeeded in checking the act of vomition. He tried a combination of ipecacuan and calumba, and found that the vomiting was then longer of commencing, and less violent in its effects. "The great value of calumba," says Pereira, "consists in its not being apt like other and more powerful tonics to create nausea, sickness, febrile disorder, or headach, so that it is tolerated when other remedies of this class would be immediately rejected." From the decidedly sedative influence therefore which calumba exercises upon the stomach, it certainly is *the* tonic, *par excellence*, which is best adapted to those cases of dyspepsia—and their name is Legion—in which there is anorexia, accompanied by nausea, vomiting, and other symptoms, indicative of gastric irritation.

In the following extract the author calls attention to a property recently claimed for ipecacuan:—

"Ipecacuanha is an excellent counter-irritant; applied in the form of liniment, prepared as directed below, it produces an eruption of minute vesicles on an inflamed base, in from 36 to 48 hours, which fade away in 3 or 4 days. It possesses the advantage of not causing much pain or constitutional irritation.—*Linimentum Ipecacuanhæ*, (ipecacuan, in very fine powder, ℥ss; axunge, ʒij; olive oil, f℥iss; mix.) A fourth part of this should be well rubbed into the part we desire to irritate, three or four times a-day." P. 177.

The counter-irritant properties of ipecacuan have been called in question by some reviewers, and sneered at by others; but our experience leads us to speak most decidedly in favour of it as an efficacious, mild, and easily manageable counter-irritant, well adapted to the treatment of chronic bronchitis and chronic hydrocephalus. The proportions which we use, are two drachms of ipecacuan to half an ounce each of lard, and olive oil, in accordance with the formula originally proposed by Dr Turnbull of London, and subsequently recommended by Drs Hannay and Easton of Glasgow.

PART THIRD.

PERISCOPE.

PHYSIOLOGY.

EXPERIMENTS MADE AT HEIDELBERG ON THE ACTION OF STRYCHNIA UPON THE NERVOUS SYSTEM AND UPON GENERAL AND MUSCULAR SENSIBILITY. BY DR PICKFORD.

FROM these experiments it results, 1. That the irritability of the reflex apparatus, both of the spinal marrow and medulla oblongata, is extraordinarily increased, so much so, that the slightest contact with the skin produces tetanus. 2. Irritation of the abdominal viscera after the destruction of the spinal marrow, is followed by the same effects in a frog in a state of tetanus as in a healthy frog, viz. by local contractions. When the medulla oblongata remains entire, the local movements in the tetanic frog are greatly augmented in severity and extent, but they are regular as in the healthy frog. 3. There is, however, this marked difference between the tetanic and the healthy frog, that in the latter a strong irritation of the abdominal viscera excites movements of the trunk when the medulla oblongata is uninjured, while in the latter such movements do not follow the irritation, whether the medulla oblongata be removed or preserved entire. Consequently, the effect of strychnia is to augment considerably the reflex activity of the central nerves, both those influencing the organs of voluntary and involuntary motion; but it annuls the reciprocal action which the two systems of reflexion undergo in the medulla oblongata.—*Gazette Médicale de Paris*, Jan. 1844, from *Archiv. fur Physiologische Heilkunde.*

ACTION OF ARSENIC ON SHEEP. EXPERIMENTS BY M. BERUTTI of Turin.

[In the volume of this Journal for 1843, (pp. 173, 374, and 837,) experiments were reported from the foreign journals as to whether arsenic is equally a poison to sheep, as it is to men and dogs, and whether the flesh of sheep to whom arsenic has been administered, can contain a quantity of that substance sufficient to act poisonously on persons eating it. The origin of these questions was a statement made by M. Gasparin, that arsenic in large doses had been successfully administered to sheep labouring under pleurisy; and further, that the substance did not act as a poison on healthy sheep or cattle. Experiments, it will be remembered, were also made by MM. Danger and Flandin, and others. The following are the experiments and conclusions of M. Berutti on the same subject.]

On the 24th January 1843, he administered to two healthy sheep, aged about four months, to the one eight grammes of finely pulverised arsenious acid, mixed with an equal quantity of salt, and to the other thirty-two grammes of arsenic, without any salt. Two hours after, the animal to which the latter dose had been given, appeared dull and indisposed to motion, lying down again whenever it was made to walk. Excrement of a pultaceous nature and dark colour was passed. At three hours, the belly became tympanitic, the animal appeared very feeble and indifferent to external impressions, and was unable to keep its legs. It died within the four hours. From the moment of taking the poison *it passed no urine*, nor ate any thing, nor gave any indications of suffering. The other animal, which had got eight grammes of the poison along with salt, *also passed no urine*, and did not eat from the period when it was taken, neither had it any alvine evacuation. It preserved its natural liveliness for two or three hours, after which it became dull and feeble, and lay down. At the end of four hours it had tetanic convulsions, and died very rapidly. Thus both animals survived the poison about four hours, there being only a few minutes between their deaths. After death not the smallest material lesion could be discovered in their bodies, except that the lungs and right side of the heart were loaded with dark-coloured fluid blood. *In both, the urinary bladder was empty and contracted.* A chemical analysis of the organs showed the presence of arsenic throughout the body. The entire absence of the urinary secretion fully confirms the observation of MM. Danger and Flandin, who have maintained that this secretion is suspended in acute poisoning only, and not in chronic. The author next discusses the action of arsenic, which he pronounces to be depressing on the heart and arteries, and should be treated with stimulants, as alcohol, opium, &c., in various forms of combination. He also endeavours to show that arsenic has no action on the brain, the intelligence having remained entire up to the moment of death, and no morbid lesion being discoverable in that organ. In conclusion, he says, "If the discovery which M. Orfila believes he has made of the normal presence of arsenic in the bones and other tissues of the body had been verified, we should have had to inquire what amount of this substance may be present without being poisonous, and how a substance naturally entering into the formation of the tissues could act as a poison when presented to the absorbing vessels in a much larger proportion than what the system, in its natural condition, would refuse to take up. But as this supposed discovery has been proved to be groundless by the experiments of MM. Flandin and Danger, I will not enter upon the subject."—*Annales de Thérapeutique*, Feb. 1844. *From an Italian Journal.*

PRACTICE OF PHYSIC AND PATHOLOGY.

ON THE DIAGNOSIS OF EMPYEMA; WITH CASES. BY ROBERT M'DONNELL, Esq.

CASE 1. *Pulsating Empyema of necessity. A large Tumour appears in the cardiac region, which, after pulsating for some time, becomes red, tense, and shining, and then bursts, giving exit to large quantities of pus;—Death;—Post-mortem examination.*—A woman, aged 28, of dissolute and abandoned habits, was admitted into the Meath Hospital, September 6. It appeared from her statement that she had been labouring under symptoms of acute pleuritis for two months, for which she was actively treated. When admitted she was greatly emaciated; suffered from pain in the left side a little below the mamma; she had cough, with bloody streaks through the expectoration, and inability of lying on either side, decubitus being for the most part on the back. Her pulse was 108, small and weak. The *physical signs* were dulness of the left side, commencing a few inches below the clavicle, and extending downwards both before and behind; the left lateral region was likewise dull; total absence of respiration all over this dull portion; the upper part of the left side, both before and behind, was clear on percussion, with bronchital râles accompanying the respiratory murmur. The lower half of the sternal region was completely dull; and here the sounds and pulsations of the heart were more intense than in any other situation. The whole of the right side of the chest, both before and behind, sounded clear, and the respiratory murmur was loud, puerile, and free from râle. There was no dilatation of the side observed on her admission.

For the next fortnight, there was very little change observed; on the 21st, however, the cough again became very troublesome, and was accompanied by a copious muco-purulent expectoration, and her breath became intolerably fœtid; pulse 106, and feeble; respiration 25, and very laboured. She complained of slight tenderness a little below the nipple, but there was no discoloration or œdema of the part. On the 26th, a small tumour became perceptible, *every time she coughed*, in the situation of the pain; it was soft and exquisitely tender to the touch, but not discoloured or œdematous. On the 28th, bronchitic râles were very intense in the right lung, and those in the top of left lung were much increased; the *expectoration had become quite purulent.* When she reclined to the left side the tumour became greatly enlarged, but receded when she lay on the right, and had a distinct fluctuation. On the 30th, the tumour had extended considerably, and the expectoration was still *purulent, and very copious.* Pulse 108, and weak.

From the 1st of October to the 15th, she suffered severely from incontrollable diarrhœa, and was reduced to such a state that her stools were passed involuntarily. The tumour had greatly increased, and was now about the size of an orange, it was red, shining, and fluctuating, *and had a strong diastolic pulsation*, which did not convey the idea of being tilted forward by a pulsating body, as occurs in the case of tumours lying on arteries, but it was of an expanding character, and in every part the pulsation was equally strong. *Though frequently examined with the stethoscope, the least trace of bruit de soufflet was never discovered;* nor had it the peculiar thrill so frequently felt in aneurisms. On the 21st, she expectorated about a pint of green pus; and the bowel complaint received a notable check. The tumour was still more red, tense, and pulsating, and on the following day it burst, and gave exit to about three quarts of extremely fœtid pus; and she became exceedingly weak. After the evacuation of the pus, the sound on percussion assumed a clear tone. On the 24th the respiration in the right lung was again healthy, and free from râle. The tumour had receded, the respiration in the affected side was just audible, but without râle. All the metallic phenomena, except *tinkling* and amphoric breathing, were present, and the sound on percussion was quite tympanitic. When the aperture was uncovered, *a peculiar rustling or whistling noise was perceived at each inspiration. From this time she began to rally, her strength increased, the diarrhœa ceased, and the purulent expectoration diminished,* and she was able to sit up all day, the pus constantly trickling from the fistula which remained open, and for the next six weeks she had periodical discharges to the amount of two or three quarts every ten days or so. At last her strength again failed, the cough increased, the pulse became quick, but she remained free from sweating. The clavicle and spine of scapula of the affected side became gradually dull, accompanied with feeble respiration, mixed with crepitating râles. The day before her death, (which occurred on the 15th of December,) a discharge of nearly three quarts of green and fœtid pus escaped from the fistula.

Post-mortem Examination.—The right lung was in every respect healthy, *not the least evidence of bronchial inflammation in any part of it.* On the left side of the chest being opened, the lung was found bound by adhesions to the ribs, for about two-thirds of the pleural cavity, and the remaining third, *i. e.*, between the compressed and shrivelled lung and diaphragm, was an empty cavity. The lung was also bound down to the spinal column by two strong bands of adhesion, and its inferior lobe was found red and carnified. The sac of the abscess passed behind the lung also, to a considerable distance; it was coated with a thin layer of organised lymph. The upper lobe of the left lung was the seat of numerous tubercles, beginning to soften, the anterior part of the lower lobe was healthy, but the posterior, as before stated, was solid. The fourth rib was quite carious near its cartilage, and the sixth was in a similar condition, and the periosteum covering both was in a sloughy state. Externally the integuments around the fistula were separated for a couple of inches from the subjacent muscles. *The liver was enlarged to nearly half its normal size, engorged, and full of blood.* The intestines were examined with the greatest care, but no trace of disease could be discovered.

CASE 2. *Pulsating Empyema of necessity; two Tumours appear in the lower part of left side, presenting fluctuation and pulsation; on being opened, purulent matter escapes in large quantities; Death.*—About the middle of June 1842, I was requested by my friend Dr Graves to visit A. B., Esq. From the history of the case, it appeared, that three years previously he was attacked with pain in the left side, cough, and difficulty of breathing. These symptoms he referred to influenza, which was then very prevalent, but as they continued longer than he expected, and left him in a weakened condition, he came up to Dublin, and placed himself under the care of Dr Graves, who immediately discovered that he was labouring under empyema of the left side. He remained in town for some time, and appeared to be greatly improved, when urgent business obliged him to go down again to the country, where, from change of air, and perseverance in the treatment advised, his strength increased, his spirits became good, and he was so far recovered as to be able to follow his usual pursuits, which were those of a country gentleman, and even to engage in field sports. For the next two years his health was sometimes good, and at others bad; the cough frequently returned, and the difficulty of breathing and pain in the side occasionally annoyed him. For these symptoms he often consulted medical men in his neighbourhood, but it does not appear that he made them fully acquainted with his condition, for the remedies employed consisted chiefly of simple cough mixtures; nor indeed were his habits such as to lead his medical attendants to suspect him of labouring under serious illness, for, according to his own statement, he used to join in various amusements, particularly hunting, and frequently has *felt* the fluid moving in his chest when going over a leap. So little was there in his appearance to excite alarm, that he succeeded in getting a medical certificate on one occasion, when it was necessary to have his life insured, for the examination was confined to the upper and front portion of his chest, and in this way his actual condition eluded observation. From that period till May 1842, he enjoyed pretty good general health. He now began to suffer from many of the constitutional symptoms of phthisis, and was greatly alarmed by the appearance of two tumours on the affected side, which we shall describe more particularly, and determined on coming to Dublin, and placing himself again under the care of Dr Graves. He was not long in town before I saw him, and his state was then as follows:—He was greatly emaciated, pale, and haggard; his pulse was quick and feeble; he suffered greatly from night sweats; he had a slight cough, without expectoration; difficulty of breathing, and inability of lying, except on the back. He was extremely nervous, and, in short, had all the usual symptoms of hectic, save diarrhœa.

On examining the chest, two large tumours were observed, one situated in the spot usually occupied by the apex of the heart; the other was situated posteriorly, and appeared between the tenth and eleventh ribs, about two inches from the spine. Both of these tumours were alike in the following particulars: they were large (about the size of a Seville orange), soft and fluctuating, not discoloured, but having a few large and varicose veins coursing about their bases. They first made their appearance in the intercostal space, and at the time I speak of, they both possessed a *strong diastolic pulsation*, quite visible, and as strong as that of an aneurism of equal size, but without *bruit de soufflet* or thrill. It was also easy to perceive that a communication existed between them, for by placing the hand on one, fluctuation could be felt when the other was tapped. The integument in the neighbourhood was not inflamed or œdematous, nor did he suffer any pain from handling the tumours or the parts in their vicinity. Previous to their first appearance, he suffered considerably in the above-mentioned situations, from a constant pain, increased on pressure, or when the waistband of his trousers was buttoned; but this after some time diminished, and two small tumours, about the size of hazel-nuts, became perceptible, and soon attained the size above described. *At first they did not possess any pulsation*, nor was it until they were about the size of a turkey's egg that this peculiarity was observed. So much as regards the tumours. The affected side was not, at the time I saw him, increased in size, when measured at a distance from the tumours, nor had it the well-known barrel shape so common in empyema. It was completely dull on percussion over its entire extent, except for about two inches below the clavicle in front, and to the middle of the scapular region behind. In these situations the respiration was loud, and free from râle, but in every other part of this side, it was completely absent. The heart had left its natural position, (now occupied by one of the tumours), and was pulsating strongly and visibly to the right of the sternum under the corresponding mamma. There was no œgophony or friction sound heard over any part of the diseased side.

In consultation with Mr Cusack and Dr Stokes, it was judged prudent to make an exploratory puncture into the front tumour, the result of which proved that it contained pus. The opening was now enlarged, and about a breakfast-cup full of matter drawn off, from which the patient experienced considerable relief, and the wound was then closed. For the next three or four days nothing worthy of note occurred. Mr Cusack again saw him in consultation, and on this occasion the tumour at the posterior part of the chest was likewise punctured, and was found to contain pus of the same character as the other. He appeared but little improved, his hectic continued, and an irritative cough annoyed him, and at each cough a gush of matter took place from the tumour. The pulsation, though greatly diminished, did not altogether disappear, and was very perceptible even in the collapsed sac of the abscess. The tumour in front, which had been punctured first, was now as large as before, and presented a pulsation quite as strong, and it was observed that pressure made on it, tended to empty that placed behind; poultices were applied for about one month, during which time it continued to discharge at least a large breakfast-cup full of good pus daily. The constitutional symptoms, which before were very alarming, now abated; his appearance improved; the pulse fell down to the natural standard; the sweating stopped; the appetite and general strength gradually increased; and his nights were passed without restlessness or uneasiness of any kind. The change in his appearance was not more remarkable than that which took place in the physical signs. The left side of the chest from the level of the cardiac region upwards, became less dull, though by no means perfectly clear, and from being void of respiratory murmur, now presented it, in a tolerably intense degree, accompanied both before and behind by a loud rasping *frottement*,—so intense, that the patient himself was quite conscious of its presence, and suffered considerably from it, at each respiration. In a few days all this portion which I have this moment stated, remained rather dull, became almost tympanitic, and from the fact of a metallic resonance of the voice and cough, and Hippocratic succussion being likewise noticed, it might have given rise at first to the suspicion that the untoward accident of an opening into the lung had taken place, but he had neither the symptoms which characterize the sudden formation of a pneumothorax from perforation, nor those which indicate the bursting of an empyema into the lungs; so that it was clear, that the air which now occupied the place of the pus in the pleural cavity had entered through the external orifice. The heart, which was, as before stated, completely towards the right side, had moved to midway between the mammary regions, and its apex was beating behind the xyphoid cartilage. So far, every thing was going on well, when unfortunately his landlady put damp sheets on the bed in which he and his wife slept. The next morning he had all the symptoms of an acute attack of pleurisy of the affected side, pain, stitch, difficulty of breathing, acceleration of the pulse, and the physical signs of an extensive effusion were again manifested, and the discharge from the open abscess, which had been gradually diminishing, became again profuse. Under appropriate treatment these acute symptoms were relieved.

For the next six weeks I was in daily attendance on him, and I shall content myself with mentioning, that at the end of that time his health was so much improved that he could dispense with medical care, and was about to return to the country, when he was arrested for debt, and imprisoned in the Marshalsea. At this time the effusion was almost removed; the discharge from the posterior tumour had nearly ceased; the affected side was beginning to contract, and the inferior angle of the scapula was considerably tilted out. The sound on percussion was still somewhat dull, but the respiration was loud, and the heart occupied the space behind the sternum. The upper part of both lungs was examined with the greatest care, without discovering the least evidence of the deposition of tubercle, and as there was complete absence of pyrexia, a recovery, with of course the contraction of the side and the usual amount of deformity, was expected.

Before long, the confinement of a prison produced symptoms which but too clearly showed that phthisis had set in, and after a residence there of four months' duration, he was discharged to die of the disease. From the period of his arrest till his death, he was attended by my friend Mr Newland, who has kindly furnished me with full details of the course of the disease; but as these notes have already extended to a great length, I shall pass them over, merely mentioning that he suffered from hectic in all its varieties. His friends refused permission to make a post-mortem examination.

CASE 3. *Pulsating Empyema of Necessity.—Two large Tumours appear in the lower portion of the left side of Chest, presenting Fluctuation and Pulsation. One of them is opened, and the pus escapes in large quantities;—death; post-mortem examination.*—Case of —— Jones, Esq. (abridged from Dr Croly's account in the 8th volume of the *Medical Press*, p. 138.) He had laboured under an attack of bronchitis, pneumonia, and pleuritis with effusion. The urgent symptoms were very much relieved, and he was enabled to resume his usual avocations; still, however, he suffered from febrile exacerbations at evening, and his pulse remained quick. A few months before I saw him his strength again failed, and his fever increased. The following, according to Dr Croly, was his condition immediately before he came to Dublin. "There was palpable evidence of empyema. The side was obviously enlarged, with protrusion of the intercostal spaces, more particularly between the tenth and eleventh ribs anteriorly and posteriorly, the integuments of which were œdematous and painful, with an erythematous blush, and conveyed to the touch a sense of fluctuation. Even the patient himself at times experienced the sound of fluctuation in the chest. He was unable to lie on the sound side, his usual position in bed being either on his back or on the diseased side. Respiration was partially audible at the posterior part of the left lung, along the side of the vertebral column. This, however, was rather bronchial respiration than the respiratory murmur, or vesicular respiration. The sound on percussion of the same side was dull or tympanitic, according as the patient assumed the horizontal or erect posture, varying with the situation of the contained fluid. I distinctly recognized *metallic tinkling* on applying the cylinder beneath the clavicle. This, with the sound of fluctuation on succussion, were proofs that air as well as matter were contained within the sac of the pleura; that in fact pleuro-pneumothorax existed." Dr Croly also found that the heart still occupied the right infra-mammary region; and the left lung sounded well on percussion, and remained free from râle. Such was his condition before his arrival in Dublin.

About the middle of June 1842, Dr Graves requested me to visit this gentleman, whose case bore so strong a resemblance to that of Mr B. just detailed. He was then extremely emaciated and pale, his countenance anxious and haggard, and he was bathed in profuse perspiration. His pulse was 120, small and weak; his respiration 30, laboured. He was sitting up in bed supported by pillows; any other position was sure to induce intolerable dyspnœa. He complained of the excessive difficulty of breathing, and earnestly entreated that the operation of paracentesis should be performed. On examining the chest, *two tumours, each about the size of a hen's egg, were observed,* one occupying a situation a few inches below the nipple, the other presented itself between the tenth and eleventh ribs about two inches from the spinal column. *They were* *rather tender to the touch, a few turgid veins surrounded their bases, the integument covering them was discoloured and reddish, and they both possessed a well marked fluctuation, and a distinct, perceptible, and diastolic pulsation.* This latter peculiarity was not only evident to the touch, but quite perceptible to the eye; and as was noted in the two former cases, these tumours were completely devoid of thrill, or *bruit de soufflet*, and the pulsation had all the characters that were observed in the two others. The lower two-thirds of the left side, both before and behind, was completely dull on percussion, the upper third was quite tympanitic. In no part could the respiratory murmur be distinctly heard. When he spoke, or coughed, the metallic phenomena in the upper portion of this side became painfully developed, but I did not hear *metallic tinkling*, and, of course, in his condition, the experiment of succussion was not repeated. The heart, both by percussion and auscultation, was discovered to occupy the right infra-mammary region. The sound on percussion was quite clear all over the right lung, both before and behind, and the murmur was in every part puerile and without râle. As before stated, the operation was urgently demanded by the suffering patient; and though the case was so unfavourable that a successful result was not to be expected, yet it was deemed necessary, as he was almost suffocated, and anxiously looked forward to relief from its performance. An opening was accordingly made into the posterior tumour, and a large quantity of odourless pus was discharged, the entire amount was not, however, drawn off, and the wound was closed with adhesive plaster, and soon united. When next examined, the tumour was found as large as before, and again presented the *pulsation* as well marked as ever. From the operation he experienced great relief for a few days, but again the urgent symptoms obliged Mr Morrison, his regular attendant, to make a second opening, and as soon as the matter began to flow he got ease from the sense of suffocation. For a little while the patient appeared to improve, but he soon fell a victim to distressing hectic. The body was examined by Drs Croly and Hanlon; and I shall extract from the account furnished by the former gentleman all the features of interest which the dissection revealed.

Post-mortem examination.—On raising the sternum, bands of lymph were seen passing backwards to the right side. An immense cavern presented itself in the left side of the chest, so that nothing was to be seen, except about a quart of sanguinolent matter lying at the bottom. The sides of this cavity were lined with a thick coating of lymph, and gave to it the character of the sac of an immense abscess, across which several bands of lymph stretched from one side to the other. At first the left lung could with difficulty be discovered, but it was soon found lying against the bodies of the vertebræ, compressed, shrivelled up, and bound down. It was studded with tubercles throughout every portion of its structure; they had not commenced to soften, and no communication could be traced between any of the bronchial tubes and the cavity before alluded to. The heart lay to the right of the sternum, its apex being opposite to the fifth and sixth ribs. A strong band of lymph of a ligamentous appearance, arising from the anterior mediastinum, attached itself to the right lung; this, with the adhesion of the pericardium to the diaphragm, fettered the heart to its abnormal position. The pericardium was universally adherent to the heart so closely and intimately, that it could not be separated without removing the muscular fibres of that organ, whose structure was pale and flabby; the valves were all healthy. The right lung was found quite healthy, not a tubercle was discovered in any part of it. Dr Croly accounts for not being able to trace a communication between the bronchial tubes and the cavity of the pleura, by the fact that the lung was so much disorganized as to prevent a careful examination. It is to be regretted that he did not inflate the lung while under water, by means of a bellows connected with the left bronchi.

Remarks.—The three preceding cases are no less interesting than important, and, as far as I have been able to ascertain, are perfectly new in the history of empyema, there being no mention made of such cases in any of the recent writings on the disease. It is worthy of notice that in all three, large tumours presented themselves in the situation usually occupied by the heart's apex, and in all, the heart itself was dislocated to the right of the sternum; there cannot be the least doubt as to the source from which the pulsation was derived, and the manner in which it was communicated to these abscesses. The heart, pushed out of its normal position, pulsated strongly and equally against their walls, and their contents being fluid and of equal density, a uniform and diastolic impulse was communicated to all parts of their surface, more intense, of course, in those situations nearest the source of pulsation. This accounts for what was noticed in the three cases, that the pulsation did not resemble that so often observed in tumours lying over large arteries, in which the motion consists in a mere tilting forward, nor was it like that which is seen in ordinary abscesses lying on an artery in which the pulsation occurs, generally speaking, along the line of the vessel, and is scarcely perceptible in any other part of the tumour; but it was uniform, expanding, and strong. In the two last cases, the tumours behind either derived their pulsation from the heart or from the thoracic aorta, and were from their size, situation, and feeble pulsation, more likely to lead us into error than those in front. What are the affections with which these cases might have been confounded by a person ignorant of the actual state of our knowledge respecting thoracic disease, or who, unacquainted with their history, had only seen them for the first time? Thoracic aneurism, and pulsating cancer of the lungs immediately present themselves to our view, and on examination we shall find that they possess some features in common. When compared with aneurisms we have, in both cases, tumours occurring in patients, who for a length of time complained of pain in the side, difficulty of breathing, cough, inability to lie but on one side; whose constitutions were exhausted by the protracted and distressing nature of their complaints, and in whom the outward progress of the disease was marked by severe pain at a particular point, in which, after a time, a small tumour, of a soft and yielding nature, is observed, which gradually increases in size, is totally devoid of pain, and presents well marked *diastolic pulsation*. But, on the other hand, the history of the last two cases was that of pleurisy with effusion; their duration also (three years) was greater than the average length of time that patients with thoracic aneurisms live, and at no period did they experience those dreadful tearing and lancinating pains peculiar to the latter disease; and, in addition, many of the usual symptoms of the affection were absent, such as dysphagia, *the peculiar aneurismal cough*, a *bruit de soufflet* on placing the stethoscope over the tumour, and a thrill sensible to the hand; and as far as I have been able to ascertain, aneurism of the thoracic aorta has never presented itself externally in two situations so *widely separated*. They were also distinguished from aneurism in the following particulars: the greater portion of the affected side was dull, and without respiratory murmur, yet the pulsation was *only* felt in the external tumours, in this respect differing essentially from aneurisms, in which the pulsation, thrill, and *bruit de soufflet* (when present) *are most intense at the point of maximum dulness;* and though by pressure on a bronchial tube, aneurisms may prevent the entrance of air into the part of the lung to which the tube leads, and thus produce absence of murmur, yet this portion of lung will yield a clear sound on percussion, thus presenting phenomena altogether different from those observed in my cases.

These cases, however, establish the fact, that "empyema of necessity" is liable to be mistaken for aneurism, particularly (as in the first case) when it occurs in the form of *one large pulsating tumour*, and an accurate knowledge of the characteristic features of the two affections is necessary, in order to avoid committing the grievous error of pronouncing an empyema to be an aneurism, or *vice versa*. But we do not anticipate so much difficulty in distinguishing between these two diseases as between such cases as I have detailed, and "cancer of the lung and mediastinum." At the very outset of our investigation a great difficulty presents itself, as we cannot avail ourselves of the aid derived from the history of the disease, for in many of the most accurately recorded instances of cancer of the lung, the patients evidently suffered at the commencement of their illness *from pleurisy excited by ordinary causes, and followed by empyema*, and in other instances where the existence of empyema was not actually discovered, the history of the cases resembled in many particulars that of ordinary pleurisy.

This fact is rendered more apparent by referring to some of those examples of cancer of the lung, which during life were the most minutely observed, and after death the most carefully examined. The first on record, which can be of any use in assisting us in laying down rules of diagnosis, is described by Doctor Graves. (Grave's *Clinical Medicine*, p. 792.) This was followed by some interesting cases from Heyfelder, (*Archives Générales de Médecine*,) and lastly, Dr Stokes has contributed others of extreme value; and in his paper will be found the actual state of our knowledge, both as to the pathology and diagnosis of this disease. In some of these cases, there are many symptoms which are not only common to both affections, but which, before the appearance of these I have now brought forward, were considered as exclusively belonging to encephaloid disease of the lung.

These three cases of cancerous degeneration of the lung began with symptoms of pleurisy. Decubitus could not be borne on any but the affected side. The physical signs were extremely like those detailed in my cases; and in one (that by Dr Graves) a soft elastic tumour presented itself behind, very close to where a tumour appeared in two of my cases; and in Heyfelder's, a large soft, elastic tumour appeared in the infra-mammary region of the affected side, a position which, in my three cases, was occupied also by soft, elastic tumours. Now, supposing that these encephaloid tumours (for such they were found to be) had possessed the pulsation, which every day's observation shows that tumours of the kind are extremely likely to enjoy, how could such a case be distinguished from either of my two last? The grounds of diagnosis could not be derived from the history of the cases,—from the sufferings of the patient,—from the physical signs,—or from the nature of the tumours (presuming the encephaloid masses had pulsation),—or from their position, for an empyema may point, and an encephaloid tumour may form, on any part of the thorax. Nor could the comparison of the physical phenomena of the two sides of the chest afford much assistance; for in two cases of the malignant disease, and in two of the empyemas, the dulness and loss of respiratory murmur were confined solely to one side. The other lung possessed clearness of sound on percussion, pure respiratory murmur, and freedom from râle. In the third case of malignant disease, and the first case of empyema, the physical signs of bronchitis were evident in the lung of the unaffected side, and *dislocation of the heart* observed in my three cases was also present in the example of encephaloid disease by Heyfelder. But even in these apparently obscure cases, considerable advantage will be derived from an attentive consideration of the points laid down by Dr Stokes, as diagnostic between encephaloid diseases of the lung, and the ordinary affections of that organ. We have not, for instance, in empyema, the very remarkable varicose and tortuous condition of the venous system, accompanied by œdema of the chest and arm, occurring *only* on the affected side. For though it is mentioned that varicose veins surrounded the bases of the tumours in two of the foregoing cases, yet such a condition of the veins is widely different from that alluded to in Dr Stokes' paper, and not likely to mislead the observant physician. Nor have we the remarkably persistent bronchitis noticed in the cases by Dr Graves and Dr Stokes, and the peculiar expectoration resembling black currant jelly, from its admixture with blood. In the case by Dr Stokes, these symptoms were not noticed at the time the affected side was *dilated*, but appeared after it had returned to its natural dimensions; and the liver was found protruding beyond the ribs for nearly three inches, *though the sides were symmetrical*—a circumstance not as yet observed in ordinary empyema; but to this latter phenomenon I shall return in another place.

These two latter circumstances proved an obstruction to the *intra*-thoracic circulation: the return of the dilated side to its natural dimensions showed a *decrease* in its fluid contents, consequently, the obstruction must have been caused either by a tumour pressing on some of the large vessels, or by an important alteration in the structure of the lung itself.

The next feature from which information, in doubtful cases, may be obtained, is the appearance of soft, elastic, and painless tumours in different parts of the body. These were observed in three of the cases described by Dr Stokes, and presented themselves at a period long subsequent to the thoracic affection; and in a beautiful specimen of cancer of the lung, exhibited at a late meeting of the Pathological Society by Dr Law, a soft and large tumour of an encephaloid nature appeared above the right clavicle, shortly before death. From what has been said, the occurrence of such tumours on the *affected* side, would greatly embarrass the diagnosis; but the situation in which they form appears to be quite accidental. In Bayle's and Dr Law's cases, they were situated above the clavicle; in Dr Graves', one was attached to the ramus of the jaw, one to the epigastrium, and one to the posterior part of the thorax; in Heyfelder's, one appeared at the infra-mammary region, and another under the left clavicle; and a fifth instance of this coincidence of cancer of the lung, with the appearance of soft, elastic tumours on the different parts of the body, will be found in Forbes's *British and Foreign Review*—No. xxxii., p. 384. The case is extracted from Kerst's *Pathology*, and is a remarkable instance of the *latency*(?) of thoracic cancer.

"The patient was a soldier, nineteen years old, who said, that about three weeks before his admission, as he was walking, he felt a sudden pain in the ham, and on reaching home, felt a swelling there, which, in twenty-four hours, increased to the size which it presented on his arrival at the Infirmary. At this time, the left knee was much enlarged, but the pain had not increased. There was swelling as large as a goose-egg in the ham, partly compact, partly fluctuating, and on a moderate pressure, distinctly pulsating. Under the notion that it was a false aneurism, compression was employed for some time; but as the swelling increased, and the œdema of the leg came on, the femoral artery was tied; after the operation, however, which in itself was successful, the tumour continued to grow as rapidly as before: the patient *began to cough as if from organic disease of the lungs*, and gradually sank. On examining the body, the internal organs were found healthy, except the right lung, which was *completely converted into a brain-like mass*. The tumour in the ham was fifteen inches long, and twenty-four inches in circumference, and adhered firmly to the periosteum of the femur and tibia. On its surface were five sacculi, holding between five and six ounces of a sero-sanguinolent fluid." Suffice it to say, that the tumour presented a well-marked example of encephaloid disease, and was curious from the fact, that the artery ran *over* it, lying imbedded between two of the sacculi.

The presence of cancer in any of the other viscera will likewise, it is hardly necessary to say, afford most valuable assistance, and the persistence of bronchitic râles, not removable by treatment, and continuing after the affected side has returned to its natural dimensions, constitute a point of dissimilarity of extreme value; for in every case of empyema I have seen, in which bronchitic râles existed, they always disappeared as soon as the effusion began to be absorbed, except in some rare cases, where the deposition of tubercle was rapidly progressing.

PURULENT EXPECTORATION IN EMPYEMA.

The case first detailed differs in some points from those which followed, and presents features which demand a separate consideration. The disease ran an unusually rapid course, if compared with those instances, where the matter of an empyema makes its escape outwards, but particularly rapid when compared with the slow progress of the other two cases, which extended over a period of between two and three years each. This circumstance may be accounted for by the difference in the habits and constitutions of the patients. The health of the woman, previous to the attack of pleurisy, was irreparably destroyed by hardship, syphilis, and mercury; and in her cachectic and exhausted condition, any acute affection would, no doubt, have exhibited unusual virulence.

Three weeks after her admission into hospital, she began to expectorate matter of a decidedly purulent character; and bronchitic râles were heard throughout the right lung. A few days after, diarrhœa set in, and resisting every kind of treatment, ceased spontaneously on the bronchial flux becoming greatly increased; for we find it noted on the 21st of October, that she had expectorated a pint of greenish pus, and that the bowel complaint had received a notable check. The post-mortem examination proved that the bronchial membrane was in a *perfectly healthy condition, and no trace of a communication between the sac of the empyema and a purulent tube could be discovered.* The tubercles in the left lung were in a crude, unsoftened state, so that the pus expectorated could not have proceeded from them. We are, therefore, compelled to consider this case as one of those in which the mucous membrane of the lungs and (as occurred also in the present instance) that of the intestines take on a vicarious action, by which an evacuation of pus, either by absorption and secretion, or some other process, is effected, which, as it advances, a corresponding diminution in the empyema is noticed to take place. How the process of absorption and removal of the matter of the empyema, and its elimination from the mucous membrane of the bronchial tubes, intestines, bladder, or vagina, is performed, remains an undecided question. Certain it is, that from a very early period of medicine, the process has been familiar to physicians, though overlooked by many late writers on the disease in question. I must not, however, omit to mention, that my friend, Professor Greene, has again directed attention to this subject, in his admirable paper on *Empyema*, in the 17th volume of this Journal. He details the particulars of four cases of the disease, in all of which copious *purulent* expectoration was a prominent symptom; and in all there were external tumours, which it was deemed prudent to puncture. In these instances, it was observed, that as soon as the matter got exit by the external opening, the quantity of *purulent* expectoration diminished, and the same circumstance occurred in the case now mentioned. Dr Greene adds, "the first explanation I heard offered as to the nature and cause of this expectoration, was suggested by Dr Hutton, in a consultation held on one of the cases detailed. He observed, that he had frequently seen the expectoration to subside and lose its character when an opening had been made for the collection, and had consequently come to the conclusion, that in many cases of empyema, the expectoration was the result of an effort of nature to free the system of purulent deposit through an external outlet, which in these instances was effected through the bronchial tubes."

The paper of Dr Greene must be regarded by every physician as one of the most useful that has appeared for many years. We learn from it, that though a patient present all the symptoms of extensive empyema of one side, with bronchitic râles or gurgling in the opposite lung, and copious *purulent* expectoration, the case is not to be despaired of, nor are we justified in giving a positive diagnosis of the existence of pulmonary abscess.

CASE 4. *Acute Pleuritis, followed by Empyema, copious purulent Expectoration; Recovery.*—He had been in Stevens' Hospital for an attack of acute pleuritis, was treated in the usual manner, and, after some time, was dismissed cured. He again caught cold, and being unwilling to enter hospital, remained at home without any treatment. After a month or six weeks, he and his friends became alarmed at the quantities of purulent matter he expectorated, and he determined on entering the Meath Hospital. He now presented the usual well marked symptoms of empyema of the right side; his pulse was weak, about 90; his breathing rather difficult; his countenance anxious; he had cough, with *copious purulent expectoration*, but no sweating or other symptom of hectic. The two inferior thirds of right side were completely dull on percussion, with absence of respiration. The intercostal spaces were dilated, and this side was nearly two inches greater in circumference than the other, in addition to which, he had depression of the liver, and loss of vocal vibration all over the dull portion of the chest. The left side of the chest sounded clear on percussion, and the respiration was free from râle in every situation, except about the situation of the large tubes, where there was occasionally heard a loose bronchitic râle, invariably removed by a paroxysm of coughing, attended with expectoration of the purulent matter.

I was glad to find, that on the patient's being examined by Dr Graves, he immediately declared it, as one of those to which Dr Greene had drawn the attention of the profession; a conclusion at which I had already arrived, for reasons which shall be mentioned hereafter. It was determined to do no more than assist the efforts of nature by supporting the patient's strength, and as he had been greatly reduced by his previous illness, and by the privations he had endured before his admission into the Meath Hospital, a generous diet, and small quantities of wine were allowed him. He had not been under this treatment a week before his pulse became full, and fell down to the natural standard; he lost the anxious expression of countenance; his breathing became easy, and he began to gain both flesh and strength; and yet he continued to expectorate daily *two large sputa-cups full of thick, yellow, " well concocted" pus.* I do not recollect a case that afforded me greater pleasure in observing, or from which greater information was to be derived. At each morning visit we found our patient perceptibly improved; from being haggard and emaciated, he became fat, ruddy, and strong; and at each visit his sputa-cup was found full of pus, of the character I have mentioned. The progress of the case was most satisfactory, even more so than in those detailed by Dr Greene; for in his, paracentesis was resorted to, but in our's, the entire of the empyema was removed *by expectoration.* At the end of six weeks the patient was discharged without a symptom of his complaint remaining, his right side perfectly clear; no cough, or difficulty of breathing; pulse natural; strength restored.

CASE 5. *Acute Pleuritis, followed by Empyema, copious purulent Expectoration; Recovery.*—The following case came under my observation within the last four months, and I shall extract briefly the notes of it from my case-book. A woman aged 30, mother of five children, was attacked about two months before she came to me, with acute pain in the left side, difficulty of breathing, stitch on drawing in a deep breath, and the other usual symptoms of acute pleuritis. She applied for relief to a medical man in this city, and was bled by him, and got some opening medicine. From the loss of blood she experienced some relief, but neglected all medical advice till she came to me, when, in addition to the symptoms already detailed, I found the lower third of the left side completely dull, and without respiratory murmur, and all over the middle third behind, a loud and rough friction sound could be heard. The dulness extended round under the axilla to the left infra-mammary region; the heart was felt and seen pulsating to the right of the sternum, and its sounds were louder and more distinct under the right nipple, than in any other situation. They were not accompanied by any abnormal *bruit.* The left side was equal in dimensions to the right. When the hand was placed over the dull part behind, no vocal vibration could be perceived; when carried up over the middle third, the friction could be most distinctly felt, and also immediately under the left axilla, but in every other part of the left lung, and all over the right, the sound on percussion was clear, and the respiratory murmur was loud, puerile, and without any kind of râle; yet *she complained of frequent cough, attended with considerable purulent expectoration,* which she used to collect in a tea cup for my inspection on every occasion she visited me. This last symptom, together with the state of the pulse, 108, weak and soft, and night sweats, led me to make frequent and most accurate examinations for phthisis; but I could not discover the least trace of tubercular deposition, nor did the previous history of the patient warrant the supposition, for except the present attack, she had always enjoyed good health. There was no enlargement of the liver. I considered the *purulent expectoration* as the result of the peculiar action of the bronchial membrane before alluded to, but the weak and feeble condition of my patient did not warrant me, I conceived, in leaving the evacuation of the effusion to the unassisted efforts of nature; I therefore placed her under a mild mercurial treatment, combined with expectorants, blisters to the side, and a generous diet, with the cautious use of wine. This was a plan of treatment against which strong arguments, grounded on the presence of purulent expectoration, sweating, and quick pulse, would have been urged some years ago, with all the appearance of experience and sound judgment for their authority; but through its agency, and the efforts of nature, the entire quantity of the effusion was removed, and the patient was restored to health in about a month from the time she first presented herself to me. After the mercury had slightly touched the gums, I placed the patient on the use of infusion of bark, as I did not consider the use of iodine necessary in her case. I have purposely omitted an account of the changes in the physical signs during her recovery, as they differ in no material point from what is ordinarily observed in such cases.

METHOD OF DIAGNOSIS IN EMPYEMA WITH COPIOUS PURULENT EXPECTORATION.

It may be useful to investigate the grounds of diagnosis in cases like those detailed by Dr Greene and myself, which presented some of the symptoms of pulmonary abscess and bronchitis; for it is evident, that without clear and distinct views on this subject, no useful conclusion can be arrived at, and our prognosis must be devoid of any thing like certainty, or even probability.

In the first case detailed by Dr Greene, except the abundant purulent expectoration, "no sign of pulmonary abscess or fistulous communication with a bronchial tube could be discovered." In his second, the symptoms likely to lead to an erroneous diagnosis, were the following:—"On applying the stethoscope under the spinous process of the scapula, and towards the root of the lung, a loud gurgling sound was heard; the resonance of the voice, also, was so loud, and clear in this situation, as to amount to imperfect pectoriloquy, while percussion yielded a very dull sound. All these phenomena were the more striking, as contrasted with the voice and respiration on the opposite side. These signs, combined with the profuse purulent expectoration, led me to suspect that the pleuritic effusion might be complicated with some structural disease of the lung—probably with a pneumonic abscess."[1] In his third case, we find no symptoms which could lead us to suppose the existence of a pulmonary abscess, except the *copious purulent expectoration*. The lung of the unaffected side yielded a clear sound in every situation, and the respiratory murmur was in every part puerile, and free from râle.

So that we have now *six* cases of empyema, in all of which copious purulent expectoration formed a prominent symptom; in *four* of them there were *no physical signs whatever* to account for this phenomenon, *not even those of bronchitis*. In one, we are told, a loud gurgling sound was heard towards the root of the lung; but it is not mentioned whether this sound was persistent, or if removable by a paroxysm of coughing; there were also "imperfect pectoriloquy," and "a very dull sound." "Gurgling," "imperfect pectoriloquy," and a very dull sound," are then the only physical signs likely to mislead the physician; and in the present state of the science, and possessed as we are of the facts disclosed in Dr Greene's paper, we do not anticipate much difficulty on these points. The gurgling was but a larger degree of the râle noticed in my second case, and would probably have been completely removed, or at least greatly modified, by coughing, followed by expectoration. The presence or absence of the "imperfect pectoriloquy," by itself, must be considered of no value whatever as a sign to be relied on, either for or against the existence of pulmonary abscess in any part of the lung, and above all other situations, of least value at the root of the organ, for here there is naturally an increased resonance of the voice, which some term bronchophony, and others may, with as much reason, call imperfect pectoriloquy. The dulness of sound was caused either by the deposition of thick layers of lymph, the result of the previous pleuritic inflammation, or by a still existing effusion in the part—a condition by no means irreconcileable with the fact, that gurgling was heard over the seat of this dulness, for Andral distinctly states that an effusion of fluid between the lungs and the ribs does not prevent our hearing sounds generated in the bronchial tubes.

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[1] Dublin Medical Journal, vol. xvii. p. 275.

The history of this case, the situation (the root of the lung) in which the phenomena occurred, and the paucity and valueless nature of the signs, could hardly mislead any one at the present time, particularly when we bear in mind that pneumonic abscess is one of the rarest lesions met with in the lungs,[1] and almost always occupies the base of the organ, whilst tubercular abscess is situated in the apex. The reason why pneumonic abscess so seldom occurs, has been accurately pointed out by Dr Stokes; and a moment's reflection will show, that it is next to impossible an abscess of this nature could form at the *root* of the lung.

These circumstances, taken in conjunction with the fact, that *true pneumonic abscesses are not accompanied with very copious expectoration; but, on the contrary, are found to contain an exceedingly small quantity of pus*, will enable the observer to arrive at a correct diagnosis in a similar instance.

In one of the cases I have detailed, the bronchitic râles were diffused all over the sound lung, and yet no trace of inflammation could be detected at the *post mortem* examination; in the other, a few mucous râles were heard occasionally at the root of the lung, which disappeared after each fit of coughing, attended with purulent spitting, and were unaccompanied by any fever or distress of breathing which could legitimately be ascribed to bronchitis.

We are therefore warranted in deducing from the foregoing cases the following rule. *That purulent expectoration in empyema, though attended by quick pulse, sweating, emaciation, and other hectic symptoms, is not indicative of tubercular or pneumonic abscess, unless accompanied by unequivocal physical signs of these lesions; but, on the contrary, it is to be regarded as the consequence of an effort of the constitution to get rid of a large collection of purulent matter, by one of the ordinary emunctories.*

Since the above was written, Dr Stokes has informed me of the particulars of two cases, in both of which there were extensive empyema of one side, and *copious purulent expectoration*, but without any of the usual signs of abscess or chronic bronchitis. These two cases, from a physician of such accurate observation, strengthen, in an essential degree, the position upon which the diagnosis above announced, is grounded, and confirm the conclusions to which I have been led.

Andral also details the particulars of a case of empyema, in which, before death, *purulent* expectoration took place, "which seemed to come from a tuberculous mass;" but at the *post mortem* examination no cavity was detected in either lung, some *crude* tubercles were found in the upper portion of the right one. In his remarks on the case, he says, "we shall also direct attention to the nature of the expectoration, similar to that yielded by *large tubercular cavities*, and which was merely the product of the bronchial mucous membrane." The mucous membrane presented *no trace of disease.*[2]

CONDITION OF THE SOUND LUNG IN EMPYEMA.

There is, however, a *true* bronchitis of the sound lung which occurs in empyema, where the lung of the affected side is so compressed and bound down by adhesions as to be unable to take any part in the respiratory process. In four cases which I have witnessed, the disease was ushered in by accession of fever and increased difficulty of breathing, and no satisfactory cause could be assigned, save *the additional duty imposed on one lung by the useless state of the*

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[1] "At the period when Laennec published his work on Auscultation, purulent collections were found but *five or six times* in the inflamed lung; they were yet very small. The *largest abscess met could scarcely admit the ends of the three fingers* joined together. As for ourselves, it has not fallen to our lot *more than once to see* a real abscess after a pneumonia, at La Charité."—Andral's *Clinique Médicale*, by Spillan, p. 382. He alludes to another example of abscess of the lung after pneumonia, presented to the Royal Academy of Medicine by M. Honoré. *These two appear to be the only cases Andral has met with.*—Op. cit. p. 382.

[2] Vide *Clinique Médicale*, by Spillan, p. 566.

other. In these instances the expectoration was not purulent, nor did it differ in any respect from what usually attends acute bronchitis, and in all the affection disappeared on an amendment taking place in the opposite side of the chest.

Such cases are not likely to be confounded with those in which the mucous and gurgling râles are produced by the quantities of pus in the tubes, the result of vicarious secretion. But there is also another condition of the sound lung in empyema, which, though it has escaped the notice of writers, it is necessary we should be familiar with, inasmuch as our over-looking it, or, on the other hand, attaching too much importance to it, will lead us into error, namely, *congestion* of the mucous membrane, *producing physical signs of bronchitis,* or some of the stethoscopic signs of pneumonia. This is by no means an unusual complication of empyema. I have observed it now in several instances, and have no doubt that many cases, presenting the physical signs denoting these conditions of the sound lung, have been recorded as examples of empyema of one side, with bronchitis or pneumonia of the opposite. A little attention will enable us to distinguish this state very readily from an *acute bronchitis,* or a pneumonia, supervening in the sound lung during the progress of the empyema, for though we may discover bronchitic râles all over the back part of the sound lung, in which the respiratory murmur had previously been puerile and free from râle; or we may often hear a loud, large, and loose crepitus (such as is commonly heard in *typhoid* pneumonia) yet we do not find the *dulness* on percussion, and characteristic sputa of pneumonia on the one hand, nor, on the other, the increase of fever, exacerbation of cough, or great difficulty of breathing which almost invariably accompany an accession of bronchial inflammation. On the contrary, neither the general symptoms, nor the feelings, nor the appearance of the patient indicate the supervention of a new disease. I am disposed, therefore, to attach very great importance to the absence of these latter symptoms as diagnostic signs between this affection of the lung and true bronchitis; for considerable experience and close observation of thoracic disease have convinced me of the truth of the doctrine long since advanced by my friend and respected preceptor, Dr Stokes, that *these symptoms are a measure of the irritation, rather than of the obstruction in the lung.*

It is unnecessary to point out the errors in treatment and prognosis, into which a neglect of the means of distinguishing between these complications of empyema, will lead the practitioner; the patient will be harassed by cupping, blistering, and other local applications, and his apprehensions awakened, and the alarm of his friends excited, by the intelligence that his sound lung has become engaged, for we all know how fondly both patients and their friends look forward to a recovery so long as only one lung is diseased; and the error is not confined merely to those imperfectly acquainted with auscultation, it is daily committed by many, otherwise very familiar with the science.

There is no difficulty in accounting for congestion of the sound lung in empyema, if we reflect for a moment on the following circumstances, which I have long considered as quite explanatory of the phenomenon. First, It occurs for the most part in those cases, where, from some unusual cause, the patient cannot lie on the affected side, but prefers reposing either on the sound side, on the back, or assumes the position termed by Andral *diagonal decubitus,* or, as more frequently happens, he lies altogether on the diseased side. In any of these situations, it is evident that congestion in particular parts of the lung is favoured by the position of the patient. Secondly, A still more important and efficient cause is owing to the circumstances, *that in consequence of the compressed, collapsed, and impermeable condition of one lung, the whole quantity of the blood circulating through the body is driven into the sound lung for aeration and oxygenation, and its sojourn in that lung is prolonged beyond the period which in health is necessary for the purification of only half the quantity; and, as a natural consequence, congestion from this cause depends on the greater or less degree of permeability enjoyed by the lung of the affected side.* The disappearance of this condition of the lung is one of the first symptoms which indicate the absorption of the pleuritic effusion, and proceeds in direct ratio with the gradually increasing expansibility of the compressed lung.

CONDITION OF THE LIVER IN EMPYEMA.

For the most accurate observations we possess respecting the liver in empyema, we are indebted to the researches of Dr Stokes. It is generally supposed that the only way in which the liver is engaged in this disease, occurs when an extensive empyema of the *right* side depresses it *mechanically;* its condition in empyema of the left side has been altogether overlooked. Some time ago, I met with a case in which an effusion into the left pleura, producing dislocation of the heart, was also attended with a perceptible tumour in the right hypochondriac and epigastric regions, which I concluded was an ordinary enlargement of the liver, and I was confirmed in this opinion when the tumour diminished under the use of mercury given for the pleurisy. I have since seen the same phenomenon in cases of empyema of the left side, in which no symptoms of derangement of the liver preceded the pleuritic attack, and in which the disappearance of the hepatic enlargement was *too sudden* and *too complete* to be confounded with the ordinary enlargement of the organ from chronic hepatitis. In some instances this enlargement is attended with pain on pressure; and this symptom has often led to the affection being considered as hepatitis. Now, I have no doubt that besides mere *mechanical* depression of the liver, there is another agent of a vital nature, still more efficient in the production of the hepatic tumour; for were we to rest satisfied with the usual explanation, we should expect that the appearance of the hepatic tumour only occurred in empyema of the right side, so extensive, as to produce not only depression of the liver, but likewise protrusion of the intercostal spaces of that side. But the fact is not so,—it is not confined to effusions into the right pleura, but occurs likewise in cases where the left cavity is the seat of the disease, and many of those examples of empyema of the left side, in which tumours in the epigastrium and towards the umbilicus were noticed, and which were considered as depression and displacement of the spleen, were in all probability examples of this enlargement of the liver. And on the other hand, an hepatic tumour is frequently observed in cases where there is no protrusion of the intercostal spaces, although there exists considerable impediment to the respiration. Let us inquire into the nature of this *enlargement* of the organ, for such I have no doubt will be found to be the true nature of the alteration in many cases, though I am far from denying that in empyema of the right side, the viscus is also depressed mechanically by the fluid within the thorax. This increase in size, then, seems due to *a congestion or engorgement of the liver analogous to what takes place in cases of morbus cordis and diseases of the lungs, attended with imperfect aeration of the blood.* In these diseases it has long been known, that the liver takes on a supplementary action, by which a quantity of carbon is eliminated from the blood, which the impeded state of the circulation through the heart and lungs renders them unable to accomplish. These enlargements are of very frequent occurrence in the class of cases I have mentioned, and every one must have been at times surprised, by the rapid disappearance as soon as the respiration was relieved, and the circulation through the heart and lungs became less obstructed. Morbid anatomy shows us that no material change in the structure of the organ takes place; it is found considerably enlarged, and always gorged with blood, which flows out in great profusion, on an incision being made into its substance, whose consistence is somewhat softer than natural, and darker in colour. But as this peculiar state of the liver does not invariably attend obstruction of the circulation, from morbus cordis or disease of the lungs, even when considerable; so likewise, it is not an invariable attendant on effusions into the pleura, but when the hepatic tumour *is* perceived, we must, I think, admit of the explanation now offered, (in conjunction with mechanical depression, when the effusion occurs on the right side,)—a view of the subject not based on theory, but *grounded on the well-known physiological laws which regulate the combined functions of the heart, lungs, and liver.*

Though this peculiar condition of the liver, and the view I take of the hepatic tumours occurring in empyema, have not been noticed by writers on diseases of the chest, yet, in their accounts of *post-mortem* appearances, this state of the liver is frequently mentioned incidentally. Thus, in a paper published by Dr Stokes many years ago, upon the diagnosis of empyema, he gives the case of a patient, in whom, besides the appearances of empyema of the right side, the liver was found "*nearly three times its natural size.*" As no other alteration is mentioned, we cannot suppose that any was observed, otherwise it would not have been omitted by a writer of such acknowledged accuracy. And again, in his work on the chest, we find him alluding to a case of empyema of the right side, in which the liver was *softened and engorged.* Andral also remarks, in a casual manner, in his description of one of his fatal cases of empyema of the right side, that *the liver was found enlarged and gorged with blood;* and at the *post-mortem* of my first case, "*the liver was enlarged to nearly half its normal size, engorged and full of blood,*" though the empyema was on the *left* side; and had my attention at that time been directed to this subject, there can be no doubt that such an extensive enlargement would have been readily detected, and we should have had then, what I have since frequently seen, effusion into the left side of the chest, with the occurrence of a large hepatic tumour.

I could quote several other cases mentioned in different periodicals, where this enlargement of the liver from engorgement was found, at the examination of fatal cases of empyema. I am therefore confident that we are not justified in considering the hepatic tumour in these cases, as produced by a mechanical depression alone, for, according to the best observers, this depression is always either preceded or accompanied by a protrusion of the intercostal spaces, and the same explanation has been offered for the occurrence of the two symptoms. But in the case of cancer of the lung and empyema, published by Dr Stokes, the liver was found much enlarged and engorged with blood, though for a long time previous to death, the right side had returned to its usual size, and all appearance of intercostal protrusion had long before disappeared. The enlargement, therefore, was the result of the same cause which produced the varicose condition of the veins, namely, the impediment to the free circulation through the lungs, whereby a supplementary duty was imposed upon the liver, and, as always occurs in such cases, the organ was found not only enlarged, but engorged, and its texture much darker than natural, from its containing a larger quantity of blood. It is therefore natural to expect that, as in chronic bronchitis, emphysema and phthisis, morbus cordis, and cancer of the lungs, the liver supplies the place of the inefficiency of the lungs in purifying the blood, it will act in a similar manner when one of these organs is compressed and rendered useless by an extensive pleuritic effusion into either side of the chest; and this is proved, not only by my observations in cases that have recovered, but also by the appearances revealed at necroscopic examinations of empyema, recorded by writers who had neither a theory to support, nor a series of observations requiring confirmation, and whose testimony is therefore entitled to the highest consideration. I shall now throw into the form of propositions, the points discussed in this paper.

1. That in Cases 1, 2, and 3, we are presented with a new form of empyema, which may be termed "pulsating empyema of necessity," exhibiting some features common to that form of empyema, and to thoracic aneurism, and encephaloid disease of the lung.

2. That it may be diagnosed from thoracic aneurism, by
   a. The history of the case.
   b. The dulness extending over the whole side, the pulsation being only felt in the external tumour.
   c. The absence of thrill.
   d. The absence of *bruit de soufflet*.
   e. The extent and nature of the fluctuation.

3. That it may be distinguished from encephaloid disease of the lung and mediastinum, by
   a. The absence of the expectoration resembling *black currant jelly*.
   b. The absence of a persistent bronchitis.

c. The absence of a varicose condition of the veins and œdema of the side affected.

d. In cancer of the lung, the situation in which the external tumours form, is not invariably confined to the thorax.

4. That copious purulent expectoration in empyema is not always indicative of cavities in the lung; but, on the contrary, is of frequent occurrence in this disease, and seems to be the result of an effort of nature to get rid of the purulent collection by the nearest and readiest outlet.

5. That this symptom, when it results from the above cause, is not attended with the usual symptoms either of abscess of the lungs, or inflammation of the bronchial mucous membrane.

6. That a *true* bronchitis of the sound lung frequently complicates empyema.

7. That still more frequently the sound lung becomes congested, and presents some of the ordinary signs of bronchitis and pneumonia, from both of which it may be distinguished by attention to the rules laid down in the previous part of this communication.

8. That in addition to *depression* of the liver from mechanical causes, that organ is likewise *enlarged from engorgement with blood* in empyema.

9. This enlargement is not confined to empyema of the right side, but occurs also when the disease is seated in the left cavity of the chest.

10. That this enlargement is identical with that which takes place in other affections of the lungs and heart, where, in consequence of their functions being impaired, an additional duty is imposed on the liver, viz., *that of eliminating carbon from the blood,* as proved by the researches of Tiedeman and Gmelin, Elliotson and Liebig; and as occurs in the former cases, so likewise we observe in this, that the increased size of the organ is due to an additional afflux of blood, whereby its structure becomes engorged, softer in consistence, and darker in colour.

11. This condition of the liver has been observed by myself, as proved by dissection, (see Case 1), and its presence detected in other cases that have recovered. It has also been mentioned by many writers in their accounts of the appearances noticed at the autopsies of cases of empyema, who have recorded the fact, though unaware of its connection with the subject under discussion, and it must now be considered as constituting an additional feature in the diagnosis and pathology of empyema.

12. This condition of the liver, when it occurs in the ordinary diseases of the heart and lungs, has been observed to disappear as soon as the obstruction to the circulation of the blood, and want of proper aeration, which gave rise to it, had ceased. So likewise in empyema, its disappearance is one of the first signs which indicate the removal of the effusion, and the return of the compressed lung to the performance of its functions.

[We have given with very little abridgement this important memoir by Mr MacDonnell, because it would have lost much of its value by being curtailed. Among the many essays of sterling merit on subjects connected with the practice of medicine and pathology which have appeared in our Dublin cotemporary, this occupies a very high place. It bears the stamp of accurate clinical study and sound reflection. We would particularly direct attention to the author's observations on the state of the liver in empyema. Its exact condition in this disease, has not, so far as we are aware, been previously described.]

Observations on Paracentesis Thoracis. By Dr Hughes and Mr Cock.

It is proposed in this paper, without minutely discussing the pathology of the diseases in which it may be practised, to consider the operation itself, including the objects proposed to be attained by, and the indications for its employment; the importance of correct diagnosis previously to its performance; and an account of the mode in which it has been performed, often with perfect success, often with great relief to the patient, and always without injury.

The diseases for which paracentesis thoracis may be employed are, hydropericardium; effusion of blood into the pleura; pneumothorax; hydro-thorax; and empyema, or chronic pleuritic effusion. We have never seen it performed in the two first of these complaints. In the other three complaints, the operation may be presumed to be practised with one of three objects or ends; 1st, The direct cure of the complaint; 2d, The relief of distressing symptoms; and, 3d, Facilitating the cure principally effected by other means.

In respect to pneumothorax the opinions of nearly all observers appear to be unfavourable to the operation.

Believing that hydrothorax is merely a symptom, it is not likely to be cured so long as the organic affection from which it proceeds remains unsubdued. Tapping in this disease can therefore only contribute to the temporary relief of the patient, or afford a more extended period for the application of remedies for the removal or diminution of the original disease. The indications for paracentesis in this disease are gradually increasing dyspnœa and orthopnoea, with a progressive dullness on percussion of one or both sides of the chest, which varies in situation according to the position of the patient, and which is found not to be under the control of other remedies.

Chronic pleuritic effusion and empyema may be treated of conjointly as the effects of one common cause. The operation may be advantageously performed even when empyema is complicated with diseases considered necessarily fatal—even when phthisis or suppuration of the lung, or mesenteric disease is supposed to exist, when the dyspnœa and general distress of the patient are great, though no permanent benefit may be afforded by the operation.

Another object proposed to be effected by the operation in empyema, or chronic pleuritic effusion, is by the occasional abstraction of a small quantity of fluid, to assist the action of other remedies, and thus to facilitate and expedite the cure. I have myself seen several cases of empyema or chronic pleuritic effusion cured without operation; but it does not follow that this simple, and when properly performed, harmless operation, may not be practised with advantage, for the purpose of accelerating the cure and to avoid deformity.

The indications for paracentesis in empyema, or chronic pleuritic effusion, appear to be, in the first instance, the presence of a large quantity of fluid in the pleura rapidly effused; in the second, the distress of the patient dependent on the great accumulation of fluid; and in the third, the existence of a considerable amount of effusion, together with such a state of constitution, or of the general health, or such other circumstances, as would render a prolonged purely medical treatment injurious or undesirable.

It is unnecessary to insist on the importance of a correct diagnosis before resorting to the operation. The general sumptoms of empyema cannot be depended upon, but the physical signs are more definite and characteristic.

The certainty of diagnosis which auscultation affords has reduced this operation from a hazardous and uncertain undertaking, to one which may be performed by any surgeon of ordinary manual dexterity. As regards the spot where paracentesis should be performed; in the great majority of instances, the existence of the fluid will be most clearly indicated at the lateral and posterior part of the chest, in a position somewhat central between the upper and the lower boundaries, between either the 7th and 8th, or the 8th and 9th ribs, and at a point distant from one to three inches from the angles of the bones.

The most experienced practitioners will occasionally be puzzled by the modifications of disease within the thorax, and it is therefore proper, before tapping, to explore the part in such a manner as to inflict no injury. For this purpose the grooved needle has been invented and used, but does not give satisfactory information. Dr Babington has contrived an instrument for this purpose. It consists of a needle contained in the smallest sized canula: this is passed between the ribs into the suspected spot; the needle is withdrawn, and the escape of fluid from the tube at once indicates the existence and the nature of the abnormal secretion. The size of the trochar used for paracentesis thoracis is a matter of considerable importance; the instrument which seems best adapted for the purpose is about one-twelfth of an inch in diameter, and about two inches in length, exclusive of the handle; the circular form seems best. A small sized instrument ensures a slow and gradual evacuation of the fluid, and enables us to avoid the admission of air—matters of great importance.

During the operation the patient should sit across the bed; a small opening should be made through the skin, and then the trochar introduced. During the evacuation the unremitting attention of the operator should be directed to the stream of fluid, which should never be completely interrupted during the effort of inspiration. The admission of the slightest quantity of air is immediately indicated by a peculiar sucking noise which cannot be mistaken, and which should be a signal for the prompt withdrawal of the canula. The wound requires only the application of a small dossil of lint and a strap of plaster.

[At the end of this paper 11 cases are detailed at considerable length; and in a table the outlines of other 9 cases are given: of these 20 cases, 7 terminated in recovery, 3 in partial recovery, 9 proved fatal, and one remained under treatment.]—Abridged from *Guy's Hospital Reports* for April 1844.

ON LARGE DOSES OF NITRATE OF POTASS. BY HENRY BENNET, M.D.

I have, during several years, seen the nitrate of potass extensively administered in *very large doses*, and have myself often thus prescribed it. It certainly is an irritant poison, and capable of giving rise, as such, to inflammation, and perforation of the stomach, if administered in large doses, but only when taken in the form of a powder, or of a very concentrated solution. When largely diluted in a fluid, one or even two ounces may be taken in the 24 hours, not only without giving rise to any toxical symptoms, but with great benefit in certain stages of the economy. When the nitrate of potass is given in a small compass, and in a single dose, half an ounce will act as an irritant poison, and occasion acute inflammation of the mucous surfaces; but if it is largely diluted a much greater quantity *may* prove innocuous, even if given in one dose, and *is sure* to prove so if administered in divided doses during the 24 hours.

It is principally in acute rheumatism that large doses of the nitrate of potass have been given. From some researches made by one of my friends and late colleagues, M. Aran (*Journ. des Connais. Médico-Chirur.*, 1841), it would appear that the nitrate of potass was used in large doses in the treatment of rheumatism during the last century by several English physicians, whose names I am unable to mention, not having M. Aran's paper by me. I believe, that M. Gendrin, the physician to the Hôpital de la Pitié, is, of all modern physicians, the one who has paid the greatest attention to the therapeutic properties of large doses of the nitrate of potass in rheumatism. The number of cases which I have seen thus treated must, therefore, be great when we consider that more than two thousand patients sojourn in M. Gendrin's wards each year. Indeed, although I have kept no statistical record, I should say that I have seen treated, or treated myself, at La Pitié, in this manner at least seventy or eighty persons labouring under acute rheumatism.

With women we generally commenced with six drachms, rapidly increasing the quantity to eight, ten, or twelve. With men we generally began at once with an ounce, gradually increasing the dose to ten, twelve, fourteen, or sixteen drachms. In the very great proportions of cases, however, M. Gendrin did not exceed the dose of twelve drachms, or approve of its being exceeded. The salt was always administered dissolved in a large quantity of barley-water, sweetened with sugar, the proportion being about half an ounce to a pint and a half or two pints of fluid. This was the *only* beverage allowed to the patient, and taken by him as required.

In this large number of cases I do not remember once seeing any toxical symptoms produced. The secretions of the skin and kidneys were generally increased, and sometimes those of the intestinal canal, but the principal action of the nitre seemed to be a sedative action, the pulse generally falling rapidly, both as regards frequency and strength. It is, no doubt, to this sedative contra-stimulant action that we must look to explain its undeniable efficacy in the treatment of acute rheumatism.

I do not recollect having once seen any symptoms of renal irritation or inflammation produced by these large doses of nitrate of potass, and have never heard M. Gendrin, whose experience on the subject is necessarily very great, say that he had met with such a case. M. Martin-Solon, in the communication which he made last October to the Academy, on the treatment of acute rheumatism by large doses of nitre, does not mention having observed a single instance of renal affection in the thirty-three cases which he had treated by doses varying from one to two ounces. It cannot be said of these two physicians that renal affections may have presented themselves without their having perceived it, as they are both accurate and conscientious observers, and have both paid particular attention to the pathology of the kidneys. M. Martin-Solon, indeed, is the author of one of the best French works on "albuminuria" which has yet appeared.

I have myself not only administered an ounce or more of nitre in the four-and-twenty hours, for many days consecutively, in acute rheumatism, but also in puerperal fever and in other inflammatory diseases, with, I think, marked benefit, and without ever observing any toxical symptom.—Abridged from *The Lancet* for Feb. 10, 1844.

ON THE TREATMENT OF PHTHISIS. BY C. M. DURRANT, M.D., one of the Physicians to the Suffolk and Ipswich Hospital.

In the *incipient* stage of the affection (phthisis) the treatment that I have chiefly adopted has been the following:—Local depletion by leeches beneath the clavicles, succeeded by counter-irritation by means of small blisters or the croton oil liniment; an emetic of ipecacuanha on alternate mornings, provided no gastric irritation obtain; and the exhibition of gradually increased doses of steel. I believe that the latter remedy would be better borne, and consequently prove more beneficial, were it to be commenced in much smaller doses than those usually adopted. In the treatment of incipient phthisis, I conceive this to be a point of considerable moment. The diet should be nutritious, but unstimulating.

The treatment that has been commonly indicated and adopted in the *advanced* stages of phthisis has commenced with the application of a large blister over the sternum, which, on healing, has been succeeded by the daily use of a liniment of turpentine and acetic acid; the endeavour to remove gastric irritation (which in this country especially I have found so constantly to accompany the progress of the disease) by hydrocianic acid and an alkali, confining the diet to broth and farinaceous articles, to quiet the cough with morphia, and, as soon as the tongue has lost its glazed appearance and prominent papillæ, to improve the diet, and commence the cautious use of mild tonics and the preparations of iodine.—Abridged from *Provincial Med. Journal* for Feb. 3, 1844.

SEA-SIDE AIR AS A REMEDIAL AGENT. BY M. GUASTALLA of Trieste.

The influence of a marine atmosphere in the treatment of various diseases has been recognised by physicians from the earliest times. But though daily experiencing its advantages, they were ignorant of the true principles on which its salutary effects depended. And even since the discovery of the real constitution of the atmosphere, various opinions have prevailed on this point. At first it was thought that the maritime air contained a larger proportion of oxygen than other air, that gas being disengaged in the course of the incessant decomposition of sea-water. Very soon, however, sea-salt was supposed to have been recognised as entering into the composition of sea-air, and works were written recommending voyages as a means of absorbing this substance by the lungs in various diseases thought likely to benefit by it. Strange to say, the early hypothesis of the greater oxygenation of sea-air has been revived in the present day, and a M. Assegond has maintained that in phthisis complicated with inflammation, the respiration of sea-air is injurious, owing to its being too stimulant from its higher degree of oxygenation. All the great authorities in chemistry, however, are decidedly opposed to the idea of any differences in the essential elements of the air of different districts; and if the air of the country is more salubrious than that of towns, or that of marshes injurious, or that of the sea possessed of peculiar qualities, it appears to be owing to the circumstance of these varieties of air holding in suspension various foreign admixtures, for it is established that the relative proportions of the essential constituents of the atmosphere are everywhere the same. What then are the accidental admixtures to which marine air owes its peculiar qualities? They are precisely those which are to be looked for from the nature of the case,—chloride of sodium and free muriatic acid. But this statement must be received with some degree of qualification. It has been proved by Berzelius that the air of the sea-side contains no acid or salt in combination with itself, and that the vapours rising into it are purely aqueous. But during the agitation of the sea, and particularly in high winds, and where the waves break violently upon the beach, a quantity of natural sea water is driven into the air, and may be conveyed to a greater or less distance according to circumstances. Thus then, by whatever means they may have come there, sea air does contain in a state of suspension, certain proportions of sea salt, and of muriatic acid, which are inspired into the lungs, and there absorbed and conveyed into the blood. Now, the experiments of Albers and others on the respiration and absorption of these substances used medicinally, prove that, though at first chlorinated respirations irritate the nose, the eyes, and the bronchial mucous membrane, yet, when absorbed, they very speedily exert a powerful antiphlogistic influence in chronic inflammations of the chest. In addition, sea-air contains very little carbonic acid, and so is purer than the air of towns. The free ventilation on the sea-side also prevents mephitic particles from accumulating as they often do in inland situations. The aqueous vapour constantly rising into the air from the sea, is another favourable circumstance rendering it fit for respiration in a number of diseases which we know are aggravated by breathing a drier atmosphere. From the same cause, the temperature of the sea-side is milder and less liable to sudden changes. These various circumstances explain the undoubted healthiness of sea-ports and islands. Practitioners in sea-port towns, so situated as to be fully exposed to the constant influence of sea-air, have been struck with the less degree of intensity which inflammatory affections present there, compared with what they do in inland situations. It is impossible, therefore, to attach any weight to the statement of some authors, that sea-air is exciting, and injurious to phthisical patients. There is a period of the disease, that of suppuration, when no means will prolong life, but it is contrary to fact to suppose that the air of the sea will hasten death. So convinced was Laennec of the importance of this remedy in chronic diseases of the chest, that he was induced to establish a kind of marine atmosphere in the wards of the Hôpital de la Charité, by means of fresh marine plants placed around the beds, and by making the patients take infusions of such plants. In such a case, however, the resources of art must of necessity be much inferior to those of nature, and the phthisical patients sent to hospitals are generally in far too advanced a stage of the malady to benefit much by these feeble imitations. From these and many other analogous observations which might be quoted, it results, that in chronic inflammations of the chest, sea-air is of unquestionable benefit, in so far at least, that if it does not cure them all, it so far alleviates them, that they cease to be insupportable or incompatible with life. Farther, that instead of sending phthisical patients to the country to breathe the dry air of mountainous regions, they should be sent on sea-voyages or else to some well chosen, healthy, and favourably situated part of the sea-shore.—As quoted in *Annales de Thérapeutique*, Nov. 1843; *from an Italian Journal.*

Case of Yellow Coloration of, and Infiltration of Pus into the Muscular Substance of the Heart:—Remarkable Obstruction of the Aortic Orifice, and Adhesion of the Apex of the Heart to the Pericardium. By Dr Dubini.

A woman was admitted into hospital after four days' illness, with symptoms of pyrexia and difficulty of breathing. The physical signs, as reported on admission, were the following:—Præcardial dulness, not more extensive than natural; a double superficial *bruit*, strong and rough, over the whole cardiac region, and extending upwards under the sternum as far as the throat; the beats of the heart were not free, but gave the impression of its being adherent in some part of its surface to the chest; there was dulness of the lower part of the left side, and the respiration, which was scarcely audible, appeared as if distant from the ears; there was a sensation of weight at the epigastrium, and afterwards vomiting; occasional paroxysms of dyspnœa; and latterly, along with and after the vomiting, general coldness of the surface, feebleness of the cardiac sounds, and disappearance of the pulse at the wrist, while at the same time the patient denied that she felt any uneasiness, and insisted that she was better. She died on the tenth day after her admission. The body was examined after death, and the principal appearances found, will be gathered from the following tabular view given by the author, of the correspondence between the symptoms and the *post-mortem* appearances.

Symptoms.	*Post-mortem Appearances.*
1. Fever; dyspnœa; sense of weight in the præcardial region, without any true fixed pain; strong pulsation of the abdominal aorta.	1. Diseased heart; yellow coloration and infiltration of pus into muscular substance of the heart; disease of the aortic valves; inflammation of the aorta.
2. *Physical Signs.*—Double *bruit*, so rough and superficial as to simulate a pericardial sound; the sound extended upwards along the course of the aorta, beyond the limits of the heart.	2. The heart not villous as in acute pericarditis, but presenting a remarkable fibrous ring, contracting the orifice of the aorta; with insufficiency of its valves, capable of communicating to the sac a double bellows-sound.
3. *The heart not beating freely, but as if adherent in some points to the chest*, or perhaps more correctly, to the pericardium.	3. The apex of the heart bound down inferiorly to the pericardium by a cellular vascular band.
4. Dulness and distance from the ear of the respiratory sounds in the lower part of the right side; slight dry cough.	4. Serous effusion in the right pleura, occurring also (perhaps a little later) in the left side.
5. Feeling of weight in epigastrium; burning sensation of stomach for some hours, probably the effect of some medicines given; afterwards repeated mucous vomiting, not relieved by opiates or by wine; epigastrium somewhat resistant under pressure.	5. The membranes of the stomach normal; the feeling of resistance in the epigastrium found on dissection to be due to an enlarged liver.
6. Feebleness of the cardiac sounds; disappearance of the pulse, and coldness of the extremities. This contrasted with the patient's assertions that she was quite well, may probably be attributed in part to the exaltation of spirits produced by opiates.	6. Serious and acute lesion of the motor apparatus of the heart; along with obstruction or narrowing of the aortic orifice, and some narrowing also of the orifices of the arteries going to supply the upper extremities.

Singularly enough, only four days after the *post-mortem* examination in the above case, it occurred to the author to open another body in the same hospital, which presented the same purulent infiltration into the muscular substance of the heart. It was not so general as in the above case, but was in a more advanced stage, and like it associated with yellow coloration. The valves were healthy, but there was decided inflammation of the inner coat of the arch of the aorta, with thickening of its parietes.—*Gazetta Medica di Milano*, Jan. 1844.

NITRATE OF POTASS IN SPASMODIC ASTHMA. BY DR FRISI.

Having read of a proposal by an American physician to employ in such cases the vapour of nitrate of potass, obtained by burning in the chamber, or smoking in a pipe, porous paper twice soaked in a solution of that substance, Dr Frisi resolved to try the remedy in a case of spasmodic asthma, that had obstinately resisted all other treatment. The relief was instantaneous, and the remedy, often as it was repeated, never failed to cut short the attack.—*Filiatre Sebezio;* quoted in *Gazetta Medica di Milano*, Jan. 1844.

INOCULATION OF SALTS OF MORPHIA FOR NEURALGIA.

Dr Jaques, of Antwerp, being called in to a young girl, who had a very obstinate supra-orbital neuralgia, had in vain employed antispasmodics, the sulphate of quinine, and the salts of morphia by the endermic method: he conceived the happy idea of introducing some sulphate of morphia by inoculation under the skin. For this purpose, having dissolved two or three centigrammes of the sulphate of morphia in a small quantity of water on a bit of glass, he took up this solution by means of a vaccinating lancet, and made about forty punctures over the seat of pain; a marked relief ensued. The operation was repeated for some days, and the patient, who had been for a long time ill, was completely cured. The same plan of treatment has been applied in the treatment of sciatica; the inoculations have been made the whole length of the sciatic nerve, and the patients, on whom all other kinds of treatment had produced no effect, have been completely cured. Each puncture is immediately followed by a white elevation of the skin, which disappears on the next day. Poultices are useful to subdue the irritation arising from the punctures.

This is a certain and speedy mode of administering energetic medicines; and it is probable that it may usefully be had recourse to in many other circumstances.—*Bouchardat's Annuaire de Thérapeutique* for 1844.

SURGERY.

ON CONICAL CORNEA. BY JAMES H. PICKFORD, M.D.

There is, perhaps, no disease to which the eye is subject, hitherto so rebellious to medicine, so intractable in its nature, and at the same time so fatal to vision as conical cornea; and not one, the pathology and treatment of which is so little understood.

Whilst means have been proposed as curative, and experimental measures have been multiplied, the results have been uniformly unsatisfactory and abortive. Writers, how much soever they may have differed in their pathology and indications of cure, are unanimous in this point.

With reference to a more successful mode of treatment, I proceed to detail three out of several cases which I have treated during the last ten or eleven years, both in public and private practice, under a full conviction of the truth of the observation of the late Mr Abernethy, "*that a case is worth all the reasoning in the world, and one fact better than a hatful of theory.*"

[We select the third case in illustration of Dr P.'s method of treatment.]

Mary Boys, aged 27, a dressmaker, admitted under my care, a patient of the Sussex and Brighton Infirmary for diseases of the eye, the subject of conical cornea of the left eye, to an extreme degree. Was ordered to take Antimonii potassio-tartaratis gr. i.; magnesiæ sulph. ʒiv. Primo mane quotidie.

Dec. 13. Decidedly better. Cornea flatter.

Feb. 4, 1840. Cornea flatter. Says she sees better.

March 17. Cornea very much flatter. Says she can see better. From this time she absented herself from the institution, with the exception of occasional visits.

Aug. 21. I saw her again: says she sees much the same. The right eye has a slight conical appearance, which she thinks began about three months since. Left cornea flatter.

Nov. 24. Can see much better; and, at her own request, was discharged.

May 10, 1842. She was re-admitted with conical cornea. The emeto-purgative plan was again had recourse to. She took the remedies more or less regularly, at first every day, and then once or twice a-week only; from this date to 2d May 1843, when the cornea being nearly flat, she was discharged, sufficiently recovered to resume her business, *improved in health*, having gained flesh during the treatment.

Experience has shown me that in these cases the sole merit is due to the emeto-purgative plan of treatment. I am now in the habit of prescribing zinci sulphas, which I much prefer to antimonii potassio-tartras, having found that its good effects are fully equal to those of tartar-emetic, whilst its operation is certainly much less distressing to the patient.—Abridged from the *Dublin Journal of Medical Science*, for January 1844.

UPON THE CAUSES AND TREATMENT OF OTORRHŒA. BY W. R. WILDE, M.R.I.A., Lecturer on the Diseases of the Eye and Ear.

The causes of otorrhœa are proximately inflammation; remotely this may be produced by a great variety of circumstances, among which cold, in some shape or other, is one of the most frequent. Writers generally recognize an acute and chronic form of otitis, the latter usually following upon the former. Chronic otitis may, however, and frequently does appear as an original affection, attended with little or no pain.

Porrigo, crusta lactea, herpetic, and other eruptions extending to the ear, produce, particularly in unhealthy children, otorrhœa. Mechanical injuries will, no doubt, produce otitis, and afterwards discharge. I have never seen hardened wax produce otorrhœa. Fevers of every description (and indeed, long illness of any kind,) but the exanthemata and scarlatina, more particularly, often run into aural discharges. Cold bathing is a much more frequent cause of otorrhœa than is generally suspected. Erysipelas of the scalp proceeding into the ears, is a constant cause of chronic thickening and mucous discharge from the ears. I have never seen syphilis give rise to otorrhœa. Improper syringing of the ears causes otitis and discharge. Caries of the bony case of the ear is a frequent and dangerous source of aural discharges.

With regard to the treatment of otorrhœa, our first step must be to examine minutely the condition of the external auditory canal, by syringing out the part with tepid water, and then submitting every portion of it to the action of strong light by means of the tubular speculum.

In the simple form of otorrhœa, I generally paint over the surface with a solution of nit. argent. (gr.x ad ʒi aquæ); this plan is preferable to the old practice of dropping in the solution. This plan is repeated about every third day, and, in the mean time, the ear is syringed night and morning, and even oftener if the discharge accumulates, with tepid water and a gum elastic bag, which is preferable to the usual piston syringe; and at night a slightly astringent lotion is dropped into the ear, and allowed to remain there for a few minutes. The salts of lead, zinc, and copper may be used for this purpose. I generally prefer the former; the most elegant preparation is the Liq. plumbi diacet. ℥i, et aqua rosarum ʒi.

Too much cannot be said in favour of cleanliness; allowing the discharge to accumulate in the meatus is undoubtedly one of the principal causes that perpetuates otorrhœa in any of its forms. The action of the external air should be allowed as in health; I find in two thirds of the cases I am called to treat, the orifice of the meatus filled with cotton or black wool.

The complications that render otorrhœa at all times tedious and difficult to heal, are morbid growths; of these, granulations covering over the face of the membrana tympani are a frequent cause. In such a case the bottom of the auditory tube will be found as red and vascular as a granular eye. I find the means most useful for their eradication to consist in the application of solid nit. argent. every second day, or oftener, to the surface from which they spring.—Abridged from the *Dublin Journal of Medical Science* for January 1844.

Operation for the Removal of an Embedded Pessary that had been retained upwards of six years in the Vagina. By Charles Clay, Manchester.

Mrs Meek, aged 42, of Francis-street, Manchester, applied to me some time ago, in consequence of great difficulty in voiding urine, as well as in passing her motions; both were accompanied with severe bearing-down pains, and a feeling of something filling up the vaginal canal. She was emaciated, had a sallow countenance, and was subject to a constant discharge, mixed with blood (*but not offensive*), from the vagina. Her motions were flattened like tape, and she could not bear an upright or sitting position many minutes together without greatly aggravating her pains, and increasing her difficulties in voiding urine and motions. I suspected the cause and mischief to be diseased uterine structure.

On making an examination per vaginam, I found the uterus enlarged, filling and distending the vagina; the os uteri approaching the os externum, uneven and slightly ulcerated; the cervix uteri obliterated; the uterine mass feeling like a round ball, with an irregular opening on its anterior surface; on endeavouring to trace the fundus, I was prevented by a hard ring, but which was covered with the coats of the vagina or uterus; on passing my fore finger along the circuit of the ring, I discovered (immediately behind the symphysis pubis, and as high up as the finger could reach,) a small portion of the ring uncovered for about the space of three quarters of an inch. It was evidently a foreign body introduced as a pessary; the bare portion was irregular from the concretions it had formed on its surface. That the contrivance had been ill adapted for the purpose, was evident from the fact, that the uterus had forced itself through the aperture, become subject to injurious pressure, and all the evils of a large rudely-formed pessary embedded in the structures followed. On stating the case to my patient, she candidly confessed the following particulars. About eight years previously, being subject to prolapsus uteri, she applied to an old woman (being herself a novice in such matters) for advice, who proposed to supply her with all that would be necessary, vaunting her extensive experience in such matters. A pessary was therefore procured and applied, which was taken out and again introduced frequently, for about a year or rather more, when it became so fixed that all attempts to remove it proved fruitless; motives of false delicacy prevented her from seeking proper advice, and so she went on from day to day, and from year to year, daily increasing her sufferings until the present time, when they became so severe that she stated herself ready to adopt the most severe remedy for its removal. My patient represented the instrument as made of block tin, three inches in diameter, and the central aperture so large that when she made her fingers and thumb into a cone, she could advance the fingers to the second phalangeal joints through it. It had been retained rather more than six years.

On the 4th instant, accompanied by Dr Radford, the operation was commenced, after a careful exploration of the parts by the speculum. The difficulty of getting the ligature over the bare part of the pessary was very great, though the aneurismal needle proved an excellent means for that end. After the ligature had been fairly got over, a piece of broad tape was attached to one end, and drawn over also, by which a firm hold of the pessary was obtained. Dr Radford kindly assisted in applying the necessary force to the tape, whilst, with a curved hernia-knife, using the inner circuit of the ring of the pessary after the manner of a director, I carefully and by degrees, cut through all the newly formed adhesions, being extremely cautious not to wound the uterus or the vaginal coats. The hemorrhage was trifling. It was found, on removal, not to be a block-tin pessary, but one of solid iron, nearly three inches in diameter, similar to those used for coupling together two chains for ploughing or harrowing. It weighed two and a half ounces. The patient bore the operation with great fortitude, and made a good recovery.—Abridged from the *Medical Times* of 24th February 1844.

ON THE USE OF CHLORIDE OF SODIUM IN DISEASES OF THE EYE.

BY DR TAVIGNOT.

The author has made extensive use of this substance, as a local application, in different forms of inflammation of the eye, and more particularly, in ulcerations of the cornea, and recommends it as being not only as efficacious, but even more so than nitrate of silver, and other substances commonly applied in such cases. At the same time, it is less likely to produce permanent irritation, or act as an escharotic. He has employed it, 1*st*, In the *solid* form. The crystals of common salt are ill adapted for this purpose, from their want of cohesion; but with a little practice a piece may be obtained capable of being filled into a caustic-holder, and used in the same manner. Another way of applying the substance, is in the form of a fine powder introduced into the eye; its action will then become prolonged, and, as a consequence, be more energetic. This, however, might be an advantage in various cases, not readily yielding to other modes of treatment, as, for example, purulent ophthalmia. As compared with the nitrate of silver, or sulphate of copper, the use of the chloride of sodium in the solid form, is preferable, because there is no danger, as with these substances, of its destroying the tissues, its action being merely irritant. The application of chloride of sodium causes pretty smart pain at the instant, but this soon subsides. 2*d*, In the form of *ointment*. This may be made in the proportions of from 1 to 4 drachms of powdered common salt, to the ounce of lard. It is best to begin with the weakest form, and afterwards gradually to augment its strength. In granular conjunctivitis, and inflammation of the ciliary margins,—affections, it is well known, of a very obstinate character,—it has been of signal benefit. 3*d*, As a *collyrium*. This is the best form of using the application. Several cases are given of its success in ophthalmia, and ulcerations of the cornea. The strength of the solution may vary from 1 to 3 drachms to the ounce of water. One drachm to the ounce will be found sufficiently strong for most slight cases.—*L'Expérience*, Dec. 1843.

CLINIQUE OF M. LISFRANC.

The *Clinique* of the hospital of La Pitié, says a French journalist, presents a character peculiar to it, (?) of not trusting in the treatment of surgical diseases, solely to the knife and various external applications. M. Lisfranc avails himself besides of the highest resources of the science of medicine, and begins by acting on the system with active constitutional remedies, a practice from which he obtains most unhoped-for results in a number of embarrassing cases. He often finds capital operations, which are at first considered inevitable, rendered unnecessary, in consequence of a cure being effected by internal remedies and judicious dressings; oftener still, the affection is alleviated to such a degree by this means, that operations much more simple and insignificant than were indicated at the first, prove sufficient to effect a cure. Thus, results the most remarkable and happy are obtained in his wards. In the course of the year just expired only three cases have died in M. Lisfranc's wards. He gives a clinique only once a-week, when the crowd is so great that one has considerable difficulty in getting near the beds of the patients.—*Annales de Thérapeutique*, Nov. 1843.

MATERIA MEDICA AND CHEMISTRY.

RESPECTIVE VALUE OF THE TESTS FOR DETECTING A DIABETIC STATE OF THE URINE. BY DR GOLDING BIRD.

In the treatment of a disease so intractable and fatal as diabetes too generally proves, it becomes of essential importance to detect the first deviation from health. The earliest evidence of this, in the disease in question, is, as is well known, to be sought for in an examination of the urine, as a saccharine condition of that secretion is at least the most constant, if not the necessary, accompaniment of almost every phase of diabetes mellitus. It must not be supposed, however, that the existence of traces of sugar in the urine is indicative of the necessary presence of a confirmed diabetes; for it is beyond all doubt that small quantities of this principle may occasionally exist as the result of a depraved state of the primary or secondary assimilative processes. Still, as far as experience has extended, it has shown that such a condition of the urine must be regarded with great anxiety as a most suspicious symptom; as one which, at least, points out the existence of a most deranged condition of the functions of the stomach, and one which may, in all probability, if its cause be unchecked, be the forerunner of one of the most intractable diseases falling under the province of the physician.

It is true that in advanced diabetes, where the disease has become confirmed, and the system has suffered severely from its depressing influence, the increased quantity of urine, coupled with its high specific gravity and its general physical characters, will at once lead to the detection of the disease. Every one who has attended much to the pathology of the urine must have, however, met with cases of tolerably well-marked diabetes, *quoad* the general symptoms, in which, nevertheless, neither the quantity nor specific gravity of the urine would have by themselves been sufficient to lead to a suspicion of the true nature of the disease. A remarkable illustration of this fact occurred in the person of a young woman, who, in the past summer, was a patient in Guy's Hospital (in Dorcas ward), under the care of Dr Barlow. She had previously been a patient of my own, and then presented well-marked constitutional symptoms of diabetes, with the exception of the absence of the excessive thirst and diuresis. This girl was twenty-eight years of age, but had never menstruated. The peculiar state of the tongue, which resembled a piece of raw flesh, and the harsh skin, induced me to examine the urine. The density of this fluid was but 1·022, scarcely above the average, and she passed but from 3 to 4 pints in twenty-four hours. I, however, found that it contained a large proportion of sugar. In a few weeks the quantity increased to 8 or 10 pints in twenty-four hours, and she ultimately fell a victim to confirmed diabetes. There is at this moment a man about sixty years of age in the hospital (Naaman ward), labouring under diabetes, who, when he first came under my care among the out-patients, attracted my attention by his melancholic expression and harsh skin. On inquiry, I found that he passed but from 3 to 4 pints of urine in twenty-four hours, and the specific gravity did not exceed 1·024. It was, however, loaded with sugar. In this case the diuresis, or excessive discharge of urine, and its high density, did not appear until some weeks after I had detected the presence of the disease. I have had, for nearly four years, a patient occasionally under my care (a green-grocer residing in Goswell Street) with diabetes, who, whenfirst I saw him, had neither diuresis nor increased density of urine; and these symptoms did not appear until some months after, although the urine was strongly saccharine the whole time. I need not multiply references to cases of this kind, as no doubt can exist as to the presence of diabetes, for at least some weeks, in cases where the indications afforded by the general symptoms appear to be negatived by what, on a very superficial view, may be taken for a healthy condition of the urinary secretion. Of course, the question of the probable presence of sugar can at any time be solved by chemical analysis, but this involves a considerable expenditure of time, as well as an amount of tact in investigations of this kind, not always at the command of every practitioner; and hence the importance of possessing some test of the presence of sugar, easy in its application and satisfactory in its indications.

1. *Hünefeld's Test.*—Place 4 oz. of the suspected urine in a glass exposed to the sun's rays, and add about 6 drops of a tolerably strong solution of chromic acid. In a few minutes the mixture, previously orange red, becomes brownish, and soon after assumes a bistre-brown colour, if sugar be present. These changes take place much more quickly if the mixture of urine and chromic acid be gently warmed before exposure to light.

This test depends for its action upon the deoxidizing power of the sugar, by which the chromic acid is reduced to oxide of chromium; or, after warming the mixture, the addition of a few drops of *Liquor potassæ* produces a copious deposit of the green oxide. As pure chromic acid is prepared with great difficulty, I endeavoured to find some preparation which might replace it, and found that, by making bichromate of potash into a paste with sulphuric acid, and boiling the magma with not quite enough water to dissolve it, a solution was obtained, which, when decanted from the crystals formed during cooling, contained enough free chromic acid, or rather of a combination of this with sulphuric acid, to exhibit all the changes with saccharine urine above described. In using the solution, enough should be added to the suspected urine to give it a full orange colour, without which the subsequent changes will not be perceptible.

There is an important objection to this test which renders all its indications liable to serious fallacy, depending upon the fact, that all urine containing a normal proportion of colouring matter, deoxidizes chromic acid; and consequently urine, whether saccharine or not, will partially convert this acid into oxide. This change certainly does not occur so readily in non-saccharine urine as in a diabetic state of that fluid, but still is sufficiently marked to prevent Hünefeld's test being regarded in any other light than a fallacious one.

2. *Runge's Test.*—Allow a thin layer of the suspected urine to evaporate on a white surface, as the bottom of a white plate, and, whilst warm, drop upon the surface a few drops of sulphuric acid, previously diluted with 6 parts of water. With healthy urine, the part touched with the acid becomes merely of a pale orange colour, from the action of the latter upon the colouring matter of the urine; whilst if sugar be present, the spot becomes deep brown, and soon black, from the decomposition of sugar by the acid, and consequent evolution of carbon. This test is stated to be so delicate, that 1 part of sugar dissolved in 1000 of urine can be readily detected; and even when mixed with 2000 parts, the indications are tolerably distinct.

Regarding the sources of fallacy to which this test is liable, I may mention the presence of albumen, which causes the acid to assume a tint nearly resembling that produced by sugar. There is also a peculiarity in its action, which I have more than once had occasion to observe, namely, that if the urine be evaporated so as to be capable of being drawn into threads, it scarcely produces any change of colour on the addition of the acid until heat is applied. It is, however, a more trustworthy test than the last, although certainly far inferior to the following.

3. *Trommer's Test.*—This, which is the latest test suggested for the detection of sugar, was proposed by Trommer of Berlin, and received the sanction of Professor Mitscherlich.

Add to the suspected urine, contained in a large test-tube, a few drops of a solution of sulphate of copper; a very inconsiderable troubling generally results, probably from the deposition of a little phosphate of copper. Sufficient *Liquor potassæ* should then be added to render the whole strongly alkaline; a greyish-green precipitate of hydrated oxide of copper falls, which, if sugar be present, wholly or partly redissolves in an excess of the solution of potash, forming a blue liquid, not very unlike the blue ammoniuret of copper. On gently heating the mixture nearly to ebullition, the copper falls in the state of sub-oxide, forming a red and copious precipitate. If sugar is not present, the copper is deposited in the form of black oxide.

This test is founded on a fact long known, but not previously applied to the detection of sugar, of the power possessed by some organic matters of reducing oxide of copper, as well as some other oxides, to a lower state of oxidation. It certainly is the most delicate of all the chemical tests hitherto proposed for the detection of sugar in the urine, and will readily detect it in diabetic urine, even when very largely diluted.

It is important in using this test, that no more of the solution of sulphate of copper be used than is sufficient to afford a decided precipitate on the addition of the *Liquor potassæ*. If this precaution be not attended to, a part only of the black oxide will be reduced to red sub-oxide, unless a very large quantity of sugar is present, and thus the indications afforded by this test will be rendered indistinct.

In his remarks on this test, Dr Simon observes that the presence of the urea and ammoniacal constituents of the urea may, in some cases, interfere materially with its indications. To avoid this, he directs the suspected urine to be evaporated to a syrup, and digested in pure alcohol. The alcoholic solution, being decanted, is agitated with dry carbonate of potash; and on being allowed to repose, it separates into two layers, the upper consisting of the alcoholic, and the lower of the alkaline fluid. A small quantity of a solution of sulphate of copper is then added, and the whole being warmed, a yellow or yellowish-brown precipitate occurs in the lower layer if sugar is present. I very much doubt whether this refinement of the test is ever necessary in practice, and it certainly has this objection, of requiring a long time and a tedious manipulation for its completion, which is quite opposed to the character of *a test*. As directed by Trommer, his test can be applied to urine in a few minutes, and its indications are most satisfactory.

4. *Test of Fermentation.*—The development of the vinous fermentation on the addition of a little ferment or yeast to a fluid, has long been applied as a test for the detection of sugar. It was successfully employed by Professor Leopold Gmelin of Heidelberg, for the detection of sugar in the animal fluids after the ingestion of amylaceous food. Dr Christison has, I believe, the merit of particularly suggesting the application of fermentation for the discovery of a diabetic state of the urine.

When a little yeast is added to healthy urine, and exposed to a temperature of about 80°, no other change occurs for some time, except the development of a portion of carbonic acid mechanically entangled in the yeast. When sugar is present in the urine thus treated, it soon becomes troubled, a tolerably free disengagement of bubbles of carbonic acid takes place, and a frothy scum forms on the surface of the fluid, which evolves a vinous odour. These changes take place with great rapidity, even when the quantity of sugar present is very small. If the evolved carbonic acid is collected, the quantity of sugar in the urine may be determined by measuring it, as a cubic inch of the gas very nearly corresponds to a grain of sugar.

In certainly the great majority of specimens of diabetic urine, it is not necessary to add yeast to excite fermentation, provided a sufficient temperature be employed. This indeed has been stated to be the exception, but from my own experience I can assert, that I have never yet left a glassful of diabetic urine upon a chimney-piece, when there is a fire in the grate, without having ample evidence of the development of fermentation within twenty-four hours. This test is certainly one of the best that can be employed, and is not subject to any obvious source of fallacy. It is, however, not so useful as Trommer's, as it cannot be appealed to at the moment, and requires time for the development of its indications.

5. *Test afforded by the Growth of Torula.*—It is a remarkable fact, that if the smallest proportion of sugar exists in fluid exposed for a few hours to a temperature above 70° F., and a drop of the urine (taken from the surface) be examined under the microscope, numerous very minute ovoid particles will be discovered. In the course of a few hours more these become enlarged, and ap-

pear as distinct oval or egg-shaped vesicles, which soon become developed into a confervoid or fungoid vegetation, identical with that which appears in ordinary saccharine fluids when undergoing the vinous fermentation. In hot weather I have detected the oval spores of the *Torula diabetes*, as the organic production is termed, in diabetic urine within a few hours after its being passed; and for the last two years I have constantly relied on their appearance as the indication of the presence of sugar in urine. I can scarcely conceive an error arising from mistaking other organic particles for these spores, as the latter are always oval or ovoid, whilst all other of the organic particles developed in the urine are circular. As soon as the torula has appeared, vinous fermentation rapidly proceeds, and hence any possible inaccuracy, arising from mistaking other particles for the spores, becomes corrected.

The advantages of this test are the facility with which its indications are observed by the microscope with an object-glass of one-seventh or one-eighth-inch focus, and the certainty of any possible fallacy being corrected by the subsequent development of fermentation. It is, however, less convenient than Trommer's, in consequence of the time required before its indications can be observed.

I have excluded from this list of tests that of Bouchardat, depending upon the circular polarising power of the urine, as it is difficult in application, requires an expensive apparatus seldom at hand, and moreover has its indications seriously interfered with by the colour and imperfect transparency of the urine.

I have more than once had my attention directed to the probable presence of diabetes, by observing on the patient's trowsers white spots, arising from drops of urine having dried upon them. These spots consist of minute patches of dry sugar, and are readily removed by brushing. This, although it cannot be regarded as an actual indication of the presence of sugar, is nevertheless useful as a leading question in investigating the patient's history.

In conclusion, I would remark, that excluding Professor Hünefeld's chromic test as too liable to fallacy to be of any practical value, the other tests, arranged according to the accuracy and convenience of their indications, may be thus placed:—1st, Trommer's copper test; 2nd, Growth of torula; 3rd, Development of fermentation; 4th, Runge's test.

The profession must remain greatly indebted to Trommer for putting it in possession of a test for the presence of sugar in urine, so easy in its application, and so distinct in its indications, with the additional value of requiring but a few minutes for its employment.—*London Medical Gazette.*

New Method of Ascertaining the Specific Gravity of Fluids.
By Sir James Murray.

At a meeting of the Literary and Philosophical Society of Liverpool, Dr Jeffreys called the attention of the Society to this invention. Sir James lets the atmosphere take the place of scales and weights. The apparatus, which consists of two glass tubes, open at the bottom, and connected at the top by a shorter semi-circular tube, or by a globe, so as to make the entire as it were one tube. The cross-tube or globe has a stop-cock connected with it, by means of which, when the lower extremities of the tubes are inserted in two liquids, a portion of the air has to be extracted from the upper part of the tubes. As the air is rarefied, the liquids rise in the tubes, and the height to which they rise is always in an equivalent to the specific gravity of each.—*Mechanics' Magazine.*

[Mr F. Ham, of Norwich, in a letter in the *Chemist*, admits that Sir James Murray was the *first to publish* this ingenious contrivance; but says that he had *previously formed* a similar apparatus.]

Analysis of the Blood in a Case of Lead Colic. By Professor Cozzi.

A certain quantity of blood drawn from a patient labouring under this disease was subjected to chemical examination, with the view of discovering whether it contained the salts or the oxides of lead, or whether, these substances being present, they are to be found combined with all, or only with some of the principles of the blood. He made out the presence of a salt or oxide of the metal; and farther, that it was not in combination with hematosine, periglobuline, or fibrina, but with the albumen. This analysis supports the theories of Schnebler, Berzelius, Lassaigne, and Taddei.—*Gazette des Hôpitaux*, as quoted in *Journal de Phar. et de Chimie.*

ON THE PREPARATION AND THERAPEUTIC EMPLOYMENT OF VALERIANATE OF ZINC.

BY MM. MURATORI AND CERULLI.

This new remedy is much employed in Italy in nervous diseases, and appears to be a remedy of sure efficacy in that class of cases, and a valuable addition to our means of treating them. Its formation is not difficult, if only we have previously obtained its two elements in a state of purity. Let a quantity of hydrated protoxide of zinc, sufficient to saturate the acid, be gradually added to a quantity of valerianic acid. Heat favours the combination. Then pour the solution of the salt into a porcelain vessel, adding a small quantity of protoxide of zinc to neutralize any uncombined acid. Concentrate the solution by evaporation, and a white crust of valerianate of zinc will form on the surface, which is to be removed as it forms, and after being dried, put into a close phial. M. Muratori has obtained the salt in another way, by the double decomposition of sulphate of zinc and valerianate of lime; we thus obtain a solution of valerianate of zinc, sulphate of lime being thrown down. The fluid is then concentrated. M. Cerulli treats of the practical applications of the medicine. In three cases of supra-orbital and infra-orbital neuralgia, a cure has been obtained by giving it doses of one and a half grains daily, divided into two pills, and taken at the moment of the accession of the paroxysm. In one case, the cure was complete in thirty days; in forty, in another; and in fifty, in the third.—*Gazette Médicale de Paris*, Jan. 1844.

VERATRIA OINTMENT AND ACETATE OF VERATRIA.

Veratria made into an ointment with lard (3–10 parts of veratria to 400 parts lard) has been used for many years by Calvé and other physicians at Montpellier, with the best effects, in all forms of neuralgia. Sauvan, the apothecary, remarked that an ointment of veratria, prepared with rancid fat, was more potent, and attributed this to the soluble (*acetate*) *salt* of veratria, which was formed by the liberated acid. The veratria is dissolved by the acetic acid; at the same time, a small quantity of an oily substance, which is coloured reddish-brown by nitric acid, is separated; and on evaporation a gummy, readily soluble salt, of a slightly bitter taste, is obtained, but more powerful than the pure veratria which has been treated with æther. It will consequently be better to make the ointment of *acetate of veratria and fresh lard* in small quantity, than to trust to the uncertain effect of the rancid fat.—*Pharm. Central. Blatt.*, Jan. 31, 1844; and *Chemist.*

[Turnbull's veratria ointment is composed of veratria, ʒss; olive oil, ʒi; and prepared lard ℥i. We have sometimes found this unnecessarily strong, and therefore generally begin with prescribing from gr.xv to gr.xx, to the ℥i. In place of the olive oil and lard, cold cream may be substituted in private practice.]

FORENSIC MEDICINE.

MEDICO-LEGAL INVESTIGATION OF A CASE OF POISONING BY LEAD IN FRANCE.

[A trial for this crime has recently occurred in France, which has excited considerable interest among toxicologists, not unmixed with party and personal feelings. We have the leading facts very fully reported in the medical journals respectively under the influence of MM. Orfila and Rognetta; and in addition, a pamphlet of 208 pages has been sent to us, giving a very full account of the proceedings of the trial.[1] From these sources we have made a condensed statement of the facts of the case, and of the principal points raised in the course of the scientific discussions.]

A man named Ponchon, resident in a village in the department of the Haute-Loire, had been labouring for the space of four years under organic disease of the stomach, and during that time had been under treatment in the hospital at Puy, the periods of his residence in the hospital amounting together to sixteen months. The leading symptoms of his disease were pains in the stomach, very frequent vomiting, and often bloody stools. His last residence in the hospital terminated in July or August 1841. He underwent a variety of treatment there, among which must be mentioned the administration of enemata of acetate of lead, but the relief afforded him was neither great nor permanent. Shortly before his death, however, there seems to have been a considerable intermission of his complaint, and for some weeks there had been no vomiting; but in the middle of July 1842, after taking a dish of salad and a bottle of wine, he became extremely ill. The pains in the bowels, the vomiting, and burning sensation in his stomach returned. Every thing taken into the stomach was rejected; there were coffee-coloured vomitings, bloody stools, and convulsive movements of the body, which terminated in death on the third day, his intellect having been entire to the last. It appears that his domestic condition had not been happy, owing to an open adulterous intercourse which had subsisted for several years between his wife and a man of the name of Rocher. The former treated him with great neglect and unkindness, denying him even the most common attentions. On his sudden death, these and other circumstances gave rise to a suspicion among the neighbours that he had been poisoned, and all pointed to the wife and her paramour as the authors of the crime; they were accordingly apprehended, and an exhumation and inspection of the body ordered, which took place ten days after death. The principal morbid appearances were found in the stomach, which was distended, altered in form and in the thickness of its parietes, and its right half covered with and adherent to the liver. On opening the stomach, there was found at the upper part of its right extremity a large opening, the result of cicatrized ulceration, which led into a small sac, bounded by the liver and by serous bands with a mucous lining, similar to what is found in cysts or tumours of recent formation. Little liquid was found in the stomach or in this pouch, but a great quantity of small hard bodies of various forms and consistence were observed, together with several cherry-stones. There was no appearance of recent lesion. No other morbid changes were observed in any part of the body. The brain was softened and reduced to a pulp, which was regarded as unusual, considering how short a time the body had been buried. The stomach and its contents, the intestines, the other viscera of the abdomen, as well as those of the chest, and a portion of the muscles of the right thigh, were removed for chemical examination.

In the first instance, *MM. Reneaud and Porral*, the physicians who opened the body, (under the care of one of whom Ponchon had been in the hospital at Puy), themselves subjected a portion of these organs to chemical investigation. The result was that no poison of a vegetable nature, nor any compound of arsenic or iron could be discovered. Unwilling, however, to trust entirely to their own chemical skill, *M. Barse*, a chemist, was at their request conjoined with them, and a new set of experiments entered upon by the three. The various steps of their experiments are important, and require to be mentioned in order to understand the subsequent discussions. 1. To discover vegetable poisons, the œsophagus, stomach, and heart were submitted to analysis, part of the process being to precipitate the animal matters from the decoction by means of sub-acetate of lead. The result was negative. 2. Arsenic and copper were sought for by the method of Marsh; the liver, the spleen, and portions of the lungs and small intestines being in the first place boiled in an iron vessel with distilled water and an alcoholic solution of potass. The result was again negative. 3. The appropriate tests for lead were tried on the residue of the two former operations. The liquid portions furnished nothing, but the solid residue, on being charred in an iron pot, yielded a considerable quantity of metallic lead. 4. As a suspicion of the origin of the lead might arise from the various processes these portions of the body had already undergone, the great intestines, and a portion of the small intestines were charred in the same iron vessel, which had previously been carefully cleaned, and a quantity of metallic lead was obtained, which could be beaten out with a hammer, so as to cover a piece of five sous. The same viscera of another body being charred in the same vessel, yielded no lead. 5. Finally, a part of the scrapings of such portions of the bed, as appeared to have been covered with vomited matters, was analysed, and small shining globules like lead, but too minute to admit of being tested, were discovered. From all these circumstances, the reporters concluded that there was an appreciable quantity of lead present in the organs of the body; that, being found in the matters vomited, it must have been introduced during life; that it was not the lead which some authors allege exists normally as a constituent part of the body; and, finally, that all the preparations of lead being in larger or smaller doses poisonous, Ponchon died of the effects of poison, either alone, or as an aggravation of the disease under which he laboured.

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[1] Procès Ponchon. Accusation d'Empoisonnement par le Plomb. Compte-rendu des débats des Cours d'Assises de la Haute-Loire et du Puy-de-Dôme. Pp. 208. Paris 1843.

M. Dupasquier, a chemist of Lyons, being consulted for the defence, demurred to these conclusions:—1. Because all the preparations of lead are not poisonous, as erroneously stated in the report. By experiment he had found that those which are not soluble, and on which the juices of the stomach do not act, are inert. 2. Because the symptoms observed before death may have been owing to the organic disease of the stomach under which Ponchon had laboured for so many years, and of which such extensive traces were found after death, aggravated as it would be by the eating of an indigestible salad. The symptoms also were similar to those he had formerly experienced. 3. Because the poisoning, if any, must have been acute, and would have left evident traces of recent lesion in the digestive organs, which, according to the report of the dissection, was not the case. 4. It is also within the range of possibility, or at least can neither be affirmed nor denied, that the acetate of lead, administered in the form of injection fifteen months before death, may have been the source of the lead discovered in the body. M. Orfila has found lead in the intestines of animals poisoned with it, one month after its administration; and if one, why not two, three, six, or even fifteen months? For these reasons, notwithstanding that lead was found in the body, it is by no means certain that death was the result of saturnine intoxication, or that Ponchon had taken a poisonous salt of lead at all.

The authorities now had recourse to the opinion of *M. Orfila*. His view was, that the probabilities of poisoning were very strong, for these reasons:—1. If the man died of natural disease, whence the lead that was found in the body? It was not the lead stated to be normally present, for that is in far smaller quantity, and is not to be obtained by the processes adopted here. Besides, there was lead in the matters vomited, so that it must have been taken into the stomach. 2. But it is said, that though lead was introduced into the stomach, still it may not have been a poisonous preparation of the metal. This is highly improbable, for those preparations which are neither poisonous, nor capable of becoming so in the stomach, are very uncommon, not occurring in commerce, nor used in medicine or the arts. 3. It is stated that in acute cases of poisoning by lead, certain appearances, described by M. Orfila himself, are found after death, which was not the case here. But such appearances are distinctly observed only where death has occurred previously to the third or fourth day, whereas here the person died in the end of the third day. 4. M. Orfila denies that the lead found in the body could proceed from the injections given several months before, and even if it could, its presence in the matters vomited remains to be accounted for. On the whole, therefore, *supposing that the reagents employed were pure and free from lead,* the probability of poisoning by lead is extremely strong.

In consequence of this last hint, a new chemical investigation was ordered, and MM. Orfila and Dupasquier were associated with the others for this purpose. The results of their experiments were,—1. That the matters acted on had undergone such a degree of decomposition, that it was impossible to say whether the lead formerly discovered had existed in a soluble or insoluble form. 2. That the reagents employed in the former experiments, both the distilled water and the alcoholic solution of potass, *did contain an appreciable quantity of lead.* 3. Under these circumstances, a fresh analysis was made of the scrapings of the floor, &c., on which the matters vomited had fallen, which matters, tested with pure reagents, also indicated the presence of lead. M. Orfila, therefore, as reporter of the committee, declared that poisoning with lead was still highly probable, (or, as he expressed it, that there were a thousand chances to one that Ponchon had been poisoned), and this, with the general evidence, produced a verdict of guilty from the jury, and the accused were condemned to death.

An appeal was taken against this decision, and the case tried anew in a superior court. Although much of what has already been mentioned was necessarily repeated at the trial, yet some new points of importance were started, and three new medical witnesses, MM. Rognetta, Danger, and Flandin, appeared for the defence. It is impossible to give any thing like an adequate idea of the proceedings, inasmuch as (according to what seems the practice in France,) the medical witnesses were not restricted to written reports, or to answering the questions put to them, but acted as pleaders, making speeches of considerable length and eloquence in the presence of a numerous and seemingly gratified audience. Personal references and discussions also took place, which seem to have been expected from the known antagonism of some of the witnesses, and to have added considerably to the curiosity and interest felt by the public. "The contest," says the pamphlet before us, "had been publicly announced—it was expected to be keen, lying as it did between adversaries who had already met in the presence of two Academies, but then had only measured their weapons, and that not without courtesy. On the day appointed for the opening of the scientific tournament (*for no one thought of the accused*), the small town of Riom presented an unusual appearance. From Clermont and the neighbouring towns came scientific men, and physicians in particular, to be foremost among the judges of the lists. Although vast, the hall of audience was too small to hold all the strangers who came to mingle among the brilliant society of Riom."

MM. Renaud, Porral, and Barse, were the first to be examined. They repeated substantially the evidence they had already given. M. Barse adhered to his statement, that all the preparations of lead were poisonous—he gave a minute detail of the steps of the chemical analysis, and insisted that, even admitting the re-agents and vessels employed by him not to have been free from lead, still the not obtaining lead from the organs of another body analysed in the same vessels, and by the same re-agents, as well as the subsequent analysis of the matters vomited, made by M. Dupasquier, removed all doubt as to lead having been taken, and confirmed the views formerly expressed by him.

M. Orfila also went over much of his previous ground. He admitted, however, that in the diseased state of Ponchon's stomach, the eating of a salad might have occasioned the symptoms of which he died, without supposing poison. But it would have been still more likely to cause death if mixed with a poisonous salt of lead—particularly in a man reduced and weakened by previous disease. The salts of lead act on the system in two different ways,—in small doses taken into the stomach, or in the form of saturnine emanations, they produce the common painter's colic, lead disease, &c. But in large doses the symptoms are those of acute irritant poisoning, such as were present in this case,—and it is known that the most irritant poisons have produced death without leaving any trace of their local actions. Many of the insoluble salts of lead relied on by M. Dupasquier as not poisonous, would become so if administered in a vehicle containing common salt, or an acid, so that, if Ponchon did take an insoluble salt of lead, which is very improbable, the salad and wine in which he took it were the very vehicles to make it poisonous. On the whole it is difficult, not to say impossible, to explain all the scientific facts of the case on the supposition that Ponchon died from a fresh accession of his old disease; whereas, the symptoms during life, and the appearances after death not being inconsistent with the idea of poisoning with lead, and the chemical analysis having detected lead in the body and in the matters vomited (for M. Orfila takes the same view of the chemical question as M. Barse), it is *extremely probable* that Ponchon died poisoned by a salt of lead.

M. Dupasquier's doubts as to the fact of poisoning had been greatly strengthened by all that had transpired. The experiments of M. Barse were of no value, for his re-agents had been found impure—his very vessels were not free from suspicion. As to the lead obtained in the experiments of himself and M. Orfila on certain matters vomited, what conclusions could be drawn from such matters, consisting as they did of scrapings of wood, straw, and earth, from spots supposed to be stained by the vomiting of the deceased! and that, too, in a district where the soil is represented as being impregnated with sulphate of barytes, and sulphate of lead. As to the possibility of acetate of lead given in injection some months previously being found in the bowels, he had, since the last examination, made similar experiments on dogs, and found lead in the intestines on killing the animal, so long as 22 days after.

M. Rognetta followed, and laid down the following propositions:—1. That for acute poisoning with acetate of lead, a very large dose is requisite—32 grammes are not sufficient to produce death. 2. It is impossible to produce this effect by acetate of lead dissolved in a salad or wine—for a far less quantity of the salt will make a mixture so disgusting, that no human being could be brought to swallow it, and far less swallow it unconscious of the presence of the poison. 3. The symptoms of this case were those of the old disease, aggravated by an indigestible repast, and are directly opposed to those described in the few cases of acute poisoning from lead on record. Aphonia, delirium, and constipation, were invariably present in these, whereas Ponchon retained his voice and his intellectual powers, and had bloody stools. 4. The stomach and accidental pouch yielded not an atom of the poison, and presented none of the lesions proper to poisoning with lead. 5. The chemical experiments were made with impure materials, and, besides, the injection given some months previously might account for the presence of lead in the great intestine.

MM. Danger and *Flandin* confined themselves chiefly to the chemical part of the question. In the words of M. Danger's summing up, "Lead was thrice found in the experiments of M. Barse and the others. 1. In charring in an iron vessel the residue of the matters previously subjected to re-agents. 2. In charring in the same iron vessel, imperfectly cleaned, matters which had not been previously tested. 3. In analyzing the matters supposed to have been vomited. Now, in the *first* case, lead had been employed in testing the animal matters, and may have been retained by them. In the *second* case, the vessel in which new and untried matters were charred was penetrated with lead from the substances charred in the first case, and so was capable, on being exposed to heat, of communicating lead to these untried matters. The counter-proof of charring the parts of another body in the same vessel, amounts to nothing, because the lead with which it was penetrated during the first operation, may, during the second, have been all communicated to the matters then used. In the *third* case, the re-agents employed were found to have contained lead."

After a discussion between the medical witnesses on the points at issue, and the hearing of some circumstantial evidence which bore against the accused, the different legal functionaries addressed the jury, who returned a verdict of "guilty, but with extenuating circumstances," and the punishment was commuted by the court into labour in the galleys for life.

[It may interest our readers to know something of M. Rognetta and his views,[1] as much of the excitement caused in France by this trial seems to have depended on the known antagonism in which he stands to M. Orfila. We therefore quote the following short notice from a late number of the *Archives Générales*, a journal which, it is but fair to state, appears to espouse, very decidedly, the cause of M. Orfila in this case. "M. Rognetta is, as is well known, an Italian physician, a disciple of Rasori, who having come to reside in France some years ago, put himself forward as the antagonist of the French school of toxicologists, and specially of M. Orfila. According to the theories of M. Rognetta and of Professor Giacomini, (another great authority on his side), the greater part of poisonous substances which have hitherto been classed among irritant poisons, because they do irritate, inflame, and sometimes even perforate the stomach, when applied to it, are no longer to be considered as such. In the new system of toxicology they are classed as hyposthenic agents, in other words *antiphlogistics*, whose effect is to depress the actions of the system, and as a consequence all inflammations set up in it. And this antiphlogistic property is, in their view, demonstrated by the nervous symptoms,—the prostration, the torpor, the delirium, and the convulsions, which manifest themselves, along with, or soon after the symptoms of irritation, and which are sometimes met with alone, in consequence of the absorption of the poison, and its action (in the common view very obscure, though they think differently), on the nervous centres. The therapeutic effects which they attribute to stimulants in this form of poisoning, are, in their eyes, a further proof that the action of such poisons is antiphlogistic."[2]

In concluding our abstract of this trial, (and without entering upon any of the disputed scientific questions raised in the course of it,) we must say that we think the amended verdict (which we take to mean, that the jury were morally convinced of the guilt of the accused though the proof was not sufficiently clear to warrant the punishment of death, in other words, to be a verdict of "not proven," but as such entailing in France a legal penalty), was correct, and warranted by the circumstantial evidence brought out on the trial. As to the opinions of the medical witnesses, they were of such a contradictory nature, that prosecutor and judge, as we think rightly, put them entirely out of view; and the fact elicited in the course of the proceedings, of re-agents containing lead having been employed for the detection of the poison, was necessarily fatal to the chemical part of the case. It cannot fail to have struck the reader, how different seems to be the view entertained in France and in England of the duty of medical witnesses, and how large a latitude is allowed them in the former country of pleading, and of entering into scientific discussions, which are certainly not suited to a court of justice, nor calculated to aid the decision of a jury. We are happy to see that our neighbours are themselves beginning to be alive to the anomalies and inconveniences of this state of things, in proof of which we may quote the following very judicious remarks which appear in the number of the *Archives* from which an extract has already been given. "For some years past our criminal courts, under the honourable pretext of doing justice to the accused, have been the arena in which violent scientific combats are fought. The result hitherto has been, that science has lost much of her dignity, without great gain to the interests of justice. Are we to witness much longer these deplorable discussions, so calculated to excite a spirit of detraction and contradiction, a desire of notoriety and display, rather than a search after truth? We fear it must be so, as long as the modifications which they plainly demand are not made in some of our rules of criminal procedure. For the interests of justice, and the respectability of those truly scientific men whom she may call in to her aid, it is urgently necessary to put an end to such discussions. MM. Danger and Flandin, in their reports of this case, have some very just and well expressed ideas on the intervention of scientific persons in courts of justice, which so coincide with our own that we quote them here. "It is a matter of complaint and regret," they say, "to see the sanctuary of justice transformed into an arena, in which scientific opinions, systems, and rivalship struggle for victory. Men of science ought not to come forward in the character of advocates either for or against the accused. Discussions and debates ought to be far removed from their position. Their objects ought not to be the triumphs of a cause, but the triumph of truth. When those charged with the administration of justice understand rightly what kind of assistance they ought to look for from science, not only will they not reject its aid, but their dependence upon it will be greater, and they will rejoice in the alliance."]

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[1] Perhaps M. Rognetta is known already to many of our readers as the accomplished editor of the *Annales de Thérapeutique et de Toxicologie*—a journal with which we exchange, and from which we often quote.

[2] Archives Générales, Feb. 14, 1844.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 181 of February Number.)

Wednesday, 7th April 1844. DR GRAHAM, President, in the chair.

On the Excision of the Superficial Layers of an Opaque Cornea as a means of restoring Vision. By Robert Hamilton, M.D.—Dr Hamilton's paper was given in full in our Number for March, at page 198.

Case of Malformation of the Rectum. Communicated by Dr Ransford.—The child was a healthy male. It had no alvine evacuation for three days after birth, in spite of two doses of castor oil and two grains of calomel. There was no external manifestation of malformation. On the fourth day an enema was attempted to be given, but was not received, and then on examination it was found that the gut was imperforate, being, as it were, obstructed by a membrane about an inch above the sphincter. An operation was determined on, the child having rallied, and a silver canula was introduced, along which a trochar was passed up, and three attempts made to enter the gut, but without success. Next day a bougie was passed up, and this being followed by another attempt with the trochar, some flatus escaped, which, after some hours, was followed by a little fæces. The discharge of fæces continued occasionally for a week, when it ceased, and symptoms of obstruction supervened. The passing of a bougie along a canula removed these, and the discharge was thereafter maintained regularly. Sir Benjamin Brodie saw the case, and advised the use of an instrument with three blades, used for dilating the female urethra. By this means, which, however, is always required, the alvine evacuations are kept up, and the child now thrives well.

Case of Death from a piece of Potatoe-skin in the Larynx. By Dr Jackson, of Leith. (*Communicated by Dr Spittal.*)—The author was called to see H. S., a cooper, aged 31, of irregular habits, who had died when in a state of intoxication. On dissection, the lungs and heart presented all the appearances characteristic of asphyxia. The cause of this was made apparent on examining the larynx, where it was found that a piece of potatoe-skin, of an irregular triangular shape, little more than an inch long, thin as the finest paper, and perfectly transparent, lay entangled between the folds of the thyro-aretenoid ligaments, one of the ends being fastened over the posterior end of the rima glottidis, whilst the other two margins were free, forming a valve which would open by each expiration, but shut at each inspiration, so causing speedy suffocation. The piece of potatoe-skin had probably been ejected from the stomach vomiting, along with other matters.

Dr Gilchrist, of Leith, was admitted an ordinary member.

Wednesday, 6*th March* 1844.—DR HAMILTON, Vice-President, in the chair.

On the Treatment of Obstinate Cases of Stricture of the Urethra. By Professor Syme.—Professor Syme read a paper on the treatment of stricture of the urethra, in cases where the ordinary means prove inefficient. He described the characters of the disease when it possesses an obstinate disposition, and endeavoured to show that in such instances, an attempt to effect dilatation by bougies was no less dangerous than useless. Division of the stricture either by subcutaneous puncture when it is seated in the pendulous part of the canal, or by free incision upon a grooved director when it lies behind the scrotum, was recommended, as having proved completely successful in cases that had resisted every form of dilatation.

Case of Lienteria. By Dr Summers of Biggar.—The secretary read a case, *communicated by Dr Summers of Biggar*, of a woman, aged 40, who, after having laboured under obstinate dyspeptic and hepatic symptoms, had discharged from the bowels at various times a quantity of brown matter, like sand or small gravel, and also large quantities of fatty and flaky matters, specimens of which were exhibited to the Society.

Dr Douglas Maclagan stated, that having subjected these to examination, he had satisfied himself that none of them were of intestinal formation, but that they consisted of undigested or indigestible matters passed along with the fæces, (if not mingled with them), constituting a case of pica and lienteria. Among the matters passed were recognised part of the skins of potatoes, apparently bits of cheese and fat; and the brown powdery substance resembled a vegetable matter, probably a seed bruised.

Reproduction of Bone in Necrosis.—*Mr Syme* intimated his intention of bringing before the Society, at next meeting, the subject of the production of new bone, and of exhibiting preparations proving its formation by the periosteum.

Resin of Scammony.—*Dr Gairdner* exhibited specimens of pure resin of scammony, and of ginger-bread nuts, each containing a dose of the resin, and in which the taste of the drug could not be perceived.

Pretended Anomalous Menstruation.—*Professor Simpson* related the case of a woman, aged 40, who, four years after having tumidity of the abdomen, from which she was supposed to have been pregnant, began to pretend to expel from the uterus, at monthly periods, and when menstruating, animal bodies which have the appearance of skinned field mice, some of which were exhibited. She pretends still to expel them every month has tumid abdomen before delivery; and requires, and bears enormous doses of ergot. The case was noticed as one which had deceived many persons, and which it was difficult to expose and detect.

Dr Stiven was admitted an ordinary member.

Wednesday, 3d April.—Dr Graham, President, in the chair.

On Poisoning with Sulphate of Iron. By Dr Christison.—The author commenced with observing, that sulphate of iron, under its vernacular name of copperas, was long thought to be an active poison; that in recent times, however, it had been found in medical practice, that considerable doses could be administered without injury; that experiments on animals by Gmelin tended to prove it to be nearly innocuous to the lower animals; but that the latest inquiries, those of Smith and Orfila, showed that it is an irritant poison of no small energy, if it be retained long enough in the stomach.

He then gave an account of a medico-legal case of recent occurrence, which, along with the physiological experiments instituted on the occasion of it, illustrates the accuracy of the view of the last-mentioned author, and proves that the sulphate of iron is a poison active enough to occasion death in the human subject. A child four years of age having died in circumstances which excited strong suspicions of poisoning, an investigation was made by the law authorities, nearly four months afterwards. It appeared that the child, previously in good health, was attacked with violent vomiting and purging immediately after breakfast, and died in the course of the afternoon of the same day. The person suspected in the case was proved to have purchased both sulphate of copper, and sulphate of iron, not long before, and was seen by other children in the house to mix a blue liquid with the porridge, which the child took for breakfast, and also to give for drink, after the symptoms began, a liquid of a blue colour, made by dissolving a saline substance in water. Copper was naturally suspected. Mr Dewar, and Dr James Dewar, of Dunfermline, who conducted the medical investigation, were naturally led to look for copper in the alimentary canal. There was none found, however, either by them, or subsequently, by Dr Christison, who also analyzed the contents and textures of the stomach. But there was obtained a large quantity of iron, partly in the soluble condition, but chiefly in the form of a compound insoluble in water. This appeared to be in a great measure sulphuret of iron, formed by decomposition of the sulphate through means of the sulphuretted-hydrogen and ammonia, disengaged during the decay of the body, for water, which had acted on the contents and textures of the alimentary canal, presented evidence of a much larger quantity of sulphuric acid than would have arisen from the ordinary contents; and the whole course of the mucous coat, from the mouth to the anus, was thickly lined with a layer of jet-black mucus. The tissues of the stomach presented everywhere the same colour. Iron was also found largely in numerous brown stains on the child's clothes, and on an apron worn by the person suspected to have administered the poison. The Messrs Dewar made some experiments with sulphate of iron, from which they came to the conclusion arrived at by Orfila and Smith, viz., that two drachms retained in the stomach by a ligature on the gullet, will cause death in a few hours.

It appears then that sulphate of iron may cause death; that if the body be buried for some months before being examined, the iron, as in the case of arsenic in similar circumstances, becomes united with sulphur, and that the colour of the contents and tissues of the stomach is thus changed to deep black. The process employed for detecting the iron, consisted in incinerating the contents and textures, acting on the residue with diluted nitric acid aided by heat, adding an excess of ammonia, and transmitting sulphuretted-hydrogen. The ammonia separates a yellowish precipitate of sequi-oxide of iron, and does not render the liquid blue, if there be no copper. The sulphuretted-hydrogen then produces black sulphuret of iron.

Proof of the Periosteum forming New Bone. By Professor Syme.—Mr Syme stated, that in bringing this subject under the consideration of the Society, he did not wish to excite discussion, since the question at issue afforded great room for ingenious argument on different sides, and could be satisfactorily answered only by appealing to nature. He expressed his persuasion that he had done this with success, and begged the Society to promote uniformity of doctrine, either by admitting his evidence as conclusive, or by showing that it was fallacious.

In the first place, he produced specimens of the imperfect reproduction which occurs in cases where a portion of bone is removed by mechanical violence, as in the operation of trepanning the skull. The loss of substance here is not completely supplied, but only lessened, by a scanty growth of new bone round the margin of the aperture, diminishing in thickness from the circumference towards the centre, where there is usually a portion of the space occupied merely by a ligamentous membrane. He further illustrated this, by showing the result of experiments on dogs, performed in the way that Sir A. Cooper suggested, by removing a part of the radius, while the ulna was left entire. Here, too, the vacuity is very imperfectly provided with a substitute, by a conical shaped process of new bone from each extremity of the old one, extending from the cut surfaces of the breach, and tapering towards each other, so as to leave a deficiency, occupied by a ligamentous texture. He next showed a similar result from disease in the human subject, nearly the whole shaft of the tibia having died and been discharged without the formation of a successor, the appearance presented being precisely like that of the dog's bone just alluded to, and the imperfection of the limb so great, as to require amputation several years after cicatrization of the sores. He then contrasted this preparation with one of necrosis in its ordinary form, where the old bone lies surrounded by a new shell ready to take its place in the event of removal. It is obvious, that this effectual reproduction cannot proceed from the remaining old bone, since it should in that case never be wanting, as there is always part of the shaft left entire, while it had been found, that the bone possesses in itself very limited power of reproduction. The ample investing shell in question, therefore, not being attributable to the injury of the bone that retains its vitality, must be referred, 1. To separation and thickening of a lamina separated from the bone previous to its death. 2. To the ossification of organisable substance effused from the bone previous to its death. 3. To ossification of the periosteum. 4. To ossification of the neighbouring textures, whatever they may be. The arguments in support of these explanations being very plausible, it has always been considered most desirable to ascertain the truth, by examining the process which usually takes place. But where patients require amputation for necrosis, or sink under it, the disease is almost always either so recent or so far advanced, that the source of ossification cannot be recognized with certainty. In the course of fifteen years' hospital practice, Mr Syme has met with only three cases that afforded an opportunity of dissection at the instructive period of formation, *i.e.* from three to six weeks after the commencement of the disease. Simple inspection of the preparations so obtained seems sufficient to satisfy all eyes not obscured by preconceived opinions, that the new bone was formed on the inner surface of the periosteum. The osseous substance was deposited in crusts of uniform thickness, which implied an equality of reproductive action on the surface. The subjacent dead bone was perfectly smooth, which it could not have been if a lamina, however thin, had been detached from it. The periosteum was distinctly traced out and preserved, except at those parts where it had been destroyed by the disease; and it would have constituted the *cloacæ* or defective portions of the osseous shell. In the early stage of the process the new bone was distinctly deposited in separate masses, which were plainly seen to be insulated from each other when surveyed between the eye and a light.

It having been understood that Mr Syme had deprecated debate, no one seemed inclined to speak—upon which

Mr Syme said, that probably he had been misunderstood, and that seeing present his colleagues, the Professors of Pathology and Systematic Surgery, he would like much to hear them defend the doctrines which they taught. One object, he said, in bringing forward this subject, was, if possible, to cause a uniformity of teaching as regards the reproduction of bone.

Dr Henderson differed from Mr Syme, and expressed his belief that the periosteum performed, in the process of the regeneration of bone, whether in necrosis or in fractures, only a secondary part—that it transmitted vessels into the organizable matter, which eventually exhibited the characters of bone, but that it did not possess the power of yielding directly a plastic exudation capable of undergoing development into cartilage and bone. He adverted to the investigations of Miescher on the generation of callus, as proving that it was yielded by the old bone only, and observed that the whole scope of the evidence afforded by the anatomy and physiology of bone and periosteum, tended to establish the doctrine, that the periosteum, though necessary indirectly to the growth and nutrition of bone, by affording it a supply of arterial twigs, is incapable of generating bone immediately from its own surface. Satisfied that such was the conclusion to which the formation of callus, and the generation and growth of bone, in the ordinary process of development, unequivocally pointed, he felt great difficulty in admitting that the specimens exhibited by Mr Syme were calculated to show that the periosteum had an office conferred upon it, in the case of necrosis, which it possessed in no other circumstances. He conceived, that there was nothing in these specimens irreconcileable with the views he held on the functions of the periosteum; and he called attention to the circumstances, that where the new bone, in the specimens, was the thickest, it had an immediate connexion with the old—that where detached scales of bone adhered to the periosteum alone, the dead bone over which they lay was in several places rough, intimating that a thin layer had been detached from it, and that where the scales which adhered to the periosteum corresponded to a smooth surface on the dead bone, it was extremely probable that they had originated from plastic matter, which had been thrown out by the inflamed bone, before the occurrence of necrosis. Bone, on becoming inflamed, did not die instantly, and the analogy of all other tissues in the state of inflammation seemed to render it certain that an organizable exudation may take place from the surface of an inflamed bone. These considerations induced Dr Henderson to deny that the specimens brought before the Society by Mr Syme proved, or even rendered it probable, in the face of all the reasons that could be given for limiting the agency of the periosteum in the growth and reproductions of bone to the secondary rank, which he had alluded to at the outset, that the periosteum could ever be the source of the new bone which is generated in necrosis.

Professor Miller stated, that he differed but slightly from Mr Syme, as to the reproduction of bone in necrosis, and would not have taken part in the debate, if he had not been personally called upon by that gentleman. His creed was very simple. In internal necrosis, of course, the work of reproduction is entirely effected by the surrounding bone. In external necrosis, he considered that the new formation of bone was of two parts, an internal and external, separated from each other by the sequestrum or dead portion in the first instance; but on the separation of this, coalescing and becoming consolidated to form an efficient substitute for the part destroyed. He believed that, in most cases, the doomed bone died very speedily, at least in its external surface, as indicated by its smooth unchanged appearance,—seeming as if a portion removed artificially from the skeleton. That at its circumference, the living bone speedily became universally vascular, and underwent the true inflammatory process; thereby establishing a sulcus of separation, by ulceration, precisely analogous to what takes place in detachment of a slough in the soft parts. That as this sulcus deepened, separation followed close upon ulceration; the depth being as yet altogether inconsiderable, when osseous nodules have begun to make their appearance on and around the living margin. This reparative effort on the surface of the old bone, almost coæval in its origin with that of the process of separation, he considered to be the starting point of the new structure, which thence proceeded in two layers; the *deep*, by what may be termed osseous granulation, following hard on the heel of ulceration in the separative sulcus, forming a continuous mass which occupies the place of what has been destroyed by the ulceration, and which, shooting upwards, assists in the extrusion of the dead part which the ulceration has fairly detached. At the same time a *superficial* layer, from the same origin, extends beneath the periosteum, and in close cohesion with it, apparently formed by that membrane; investing the dead portion on its external aspect, in a more or less continuous sheath of cortical formation—imperfect at certain points, where cloacæ are said to exist.

As to the formation of these cloacæ, he quite agreed with Mr Syme, that they depended on deficiency of the periosteum. First, we have ostitis, then suppuration, and thereafter the full establishment of the necrosis. The matter collects in greater or less quantity beneath the periosteum, and sooner or later it must be discharged through that membrane, into the soft parts, and thence externally. If an incision be made, as it should be, that aperture in the membrane is permanent; for the acutely inflamed part does not heal, on the contrary, the chasm widens by ulceration. If incision be withheld, the perforation is by ulceration; the loss of substance is more extensive, and consequently more surely permanent. The advancing sheath of cortical bone coming to such an opening is interrupted, and there an aperture in it, termed cloaca, results, proportioned in form and extent to the deficiency of the membrane; for though other surrounding textures, as cellular or muscular, seem to have the power of assuming both the periosteal appearance and function, it is only when they are non-inflamed and capable of enplastic exudation; which in this case they are not, but, on the contrary, inflamed and suppurating, forming part of the canal through which the general purulent secretion is being discharged. In the formation of provisional callus, after simple fracture, he believed that ossification of the plasma was begun by the parent bone, taken up by the periosteum, and continued by the adjacent soft parts at the central or other parts of the periphery, where that membrane might happen to be deficient; and that these other adjacent textures were capable of the assumption of that function, because they were undergoing a grade of the inflammatory process short of suppuration, and favourable to the effusion and nutrition of an efficient plasma.

In death of the entire thickness of a bone, he believed that reproduction took place in a similar manner. That the deep portion shot forth from the truncated extremities of the old bone, assisting by its growth to dislodge the sequestrum; that the external or cortical layer was begun by the old bone, but mainly constructed by the periosteum; that, as usual, on extrusion of the dead portion, the two new formations coalesced to form the substitute; and that when the death had proved so extensive as to render complete development of what might be termed the *heart* or *pith* of the new formation impossible, reproduction did not occur satisfactorily, if at all,—the cortical portion, when alone and unsupported, being unequal to this end.

Consequently, he believed, that in the reproduction of bone, in general, three textures might be employed. Bone formed bone better and more readily than did any other texture; periosteum was second only to bone, and superior to all other textures in this respect; other soft parts contiguous to periosteum, might supply that membrane's deficiency by assuming both its appearance and function, but only when these other soft parts were themselves not truly inflamed.

This creed he found applicable to all the surgical examples of osseous formation—as in ulcer of bone, fracture, necrosis, change on end of bone after amputation, &c. and capable of satisfactorily explaining all the phenomena attendant thereon.

Mr Syme had adduced the reparation of deficiency in the cranium as a fact in favour of his argument, that periosteum is the main agent in reproducing bone. Professor Miller thought it had a precisely opposite bearing. The reparation was at first membranous; but after many years the aperture became closed by shelving bone gradually extending from the margins of the old, and evidently the product of that texture alone. Now frequently, in the operation of trephining, the periosteum was not destroyed, but simply elevated with the rest of the flaps, and afterwards reponed; it was there consequently to secrete bone, if it chose; and, at all events, the dura mater was probably undisturbed, at least an equally efficient and quite analogous membrane; a better membrane, in fact; for a portion of the calvarium deprived of its periosteum by even rude violence, does not necessarily exfoliate, whereas a detachment of the dura mater is almost uniformly followed by necrosis of the corresponding portion of bone. Yet in the repair of a solution of continuity in the calvarium, we seldom if ever find the formation of cortical substitute; all osseous reproduction, in this instance, is from the parent bone alone; neither periosteum nor dura mater partaking in the effort.

Professor Miller also directed the attention of the Society to the *osteophyte* formations, found in the calvaria of women who have died recently after parturition—quoting from a review of M. Ducrest's paper on that subject, in the March number of Dr Cormack's Journal. The prominent characteristic of this affection was that the new osseous formation was intimately incorporated with the internal surface of the skull, and could scarcely be separated from it, while the dura mater was non-adherent,and but little changed from its normal appearance,—a fact which also told against the idea of the periosteum possessing a superior power of osseous formation.

He begged to repeat, that he believed the periosteum had the power of forming new bone, in an eminent degree; but that in this respect it was altogether secondary to the parent bone. That practically, it mattered not whether the periosteum effused the plasma, as well as superintended its organization and transition into bone, as maintained by Professor Syme; or whether it only nourished a plasma which had been furnished to it by the old bone previous to its death, as maintained by Professor Henderson. And he trusted the Society would remember that, however the disputants might differ in the minor details, yet on the important and practical point they were all agreed; namely, that the presence of periosteum is *essential to* the formation of the cortical substitute; and that, consequently, in the treatment of necrosis, we ought to have our attention much directed towards ensuring the integrity of this membrane, by early evacuation of pus, and other means calculated to subdue and limit intense and destructive inflammatory action.

Dr Bennett remarked, that so long as pathologists adopted an exclusive view regarding the production of bone from any particular tissue, so long would there be continual dispute. Selected preparations might be brought forward to support any theory advanced. Modern researches had demonstrated that new bone following fracture or necrosis was formed exactly in the same manner as bone originally produced in the fœtus. Blood plasma was poured out in the neighbourhood of the injury, which was first transformed into cartilage, and then into bone. The essential part of the process was the exudation of healthy blood plasma, capable of being converted into osseous structure; the particular tissue or vessels which furnished it was a matter of secondary importance. The exudation might be furnished in one case from bone, in another from periosteum, or the surrounding tissues, and in a third, from all of them. Dr B. considered that each of the views which had been contended for was true to a certain extent, but incorrect, in as far as they were exclusive in their nature.

FRENCH ACADEMY OF MEDICINE.

January 2, 1844.

Œdema of the Glottis. By M. Fleury.—Is œdematous angina of the larynx a specific disease, or merely a symptom which supervenes in laryngitis? This is a question regarding which authors disagree. M. Fleury believes that œdema of the larynx may result from all the causes which induce dropsy; and that in some rare cases, it is of an inflammatory character. In support of this position, arguments are deduced from analogy and observation. Laryngeal œdema manifests itself occasionally among the debilitated, during convalescence from severe fevers, and in the absence of any anterior or concomitant affection of the wind-pipe. That the practical lesson which M. Fleury inculcates is this,—that œdema of the larynx ought not, as matter of routine, to be treated by active antiphlogistic measures, but according to its special indications, *i. e.* with reference to the cause of the œdema.

January 9.

Compound Fractures of the Malleoli.—Report by M. A. Bérard on a Memoir by M. Lasserre.—Four cases are related by M. L., all of which were produced by a fall. In three which ended fatally, amputation was performed; in the fourth, the patient after fourteen months recovered with his limb, and some use of the articulation. The reporter did not consider these facts sufficient to decide whether amputation ought to be performed or not. In similar cases, when the reduction is difficult, it might be facilitated by the division of the tendo Achillis.

M. Velpeau was astonished that nothing had been said about the resection of the bones, in cases so serious as often to necessitate amputation. Without a doubt, the division of the tendo Achillis facilitates sometimes the reduction, but is not always successful, and the bones may be displaced a second time. Now this never takes place when the section has been performed, besides which, the muscles being relaxed, there is less danger of tetanus.

M. Roux.—In the report three things attracted my attention: the similitude of the four cases, the mode of treatment, the resection. Without doubting in the least the veracity of M. Lasserre, yet I am astonished that he should have met with four cases, probably in a very limited practice—that the tendo Achillis ought to be divided only in extreme cases—and that the resection is preferable.

M. Gerdy.—It is not extraordinary that M. Lasserre has seen four cases of fracture of the malleoli, for they are far more frequent in the country than in towns. I myself have observed three cases somewhat similar. As to amputation, it appears that it is not always necessary, and in my opinion, resection of the protruding bone is not requisite in every case. The apparatus proposed by M. Lasserre seems to be intended principally to prevent the foot turning outwards; this symptom has seldom been observed by me even in fractures of the fibula, and in these cases Scultet's apparatus suffices.

M. Roux stated, that in all probability Professor Gerdy had observed very benign cases of fractures of the fibula, as it is certain that when the malleolus externus is separated, or the internal ligaments of the articulation torn, the foot is always turned outwards; and though perhaps Dupuytren laid too much stress on the necessity of employing his apparatus, still it is requisite in many cases.

M. Bérard.—Section of the tendo Achillis ought to precede the resection.

Memoir on Fibrous Tumours of the Mammæ. By M. Cruveilhier.—M. C. believes that there is a non-malignant accidental product very often formed in the mammæ, which is frequently mistaken and removed by surgeons for cancer. The conclusions of the memoir (which is a very long one,) are, *1st*, That the mammæ become frequently the seat of fibrous tumours. *2d*, That they are to be anatomically distinguished, during life, from scirrhus and cancer, not being adherent. *3d*, That they never become cancerous, and ought not therefore to be extirpated. *4th*, That they are never reproduced when removed by the surgeon.

Double Fracture of the Axis.—M. Bouvier related a case of fracture of the axis, which occurred in his wards at the Salpêtrière. A woman attacked with pneumonia, in leaning out of bed one night to take up something, fell on her head. The next day the neck was stiff, and every movement productive of the most violent pains; death three days after. *Autopsy*—Left lung, inferior lobe, in the third stage,—middle lobe, second stage of pneumonia. There was a fracture on each side of the axis; parts in their natural position; no pressure on the spinal marrow. In all probability, if the patient had not died from pneumonia, these fractures might have consolidated, and the cure have been obtained.

Ancient Instruments.—M. Scoutteten presented the drawings of the various surgical instruments found at Herculaneum and Pompeii, such as of sounds of different forms, bistouries, spatulas, scissors, lancets, and speculum.

16*th January.*

Discussion on M. Cruveilhier's Memoir on Tumours of the Mammæ.—M. Blandin examined in detail, and at great length, the opinions of M. Cruveilhier. He did not agree with him as to the relative frequency of fibrous tumours of the mammæ. It is true that we find there masses which are hard, and of an aspect analogous to fibrous tissue, but which in reality are scirrhous. They have radii proceeding from the centre, which if not removed by the operator reproduce the disease. I do not think that the mamma is a fibrous tissue: but this is a secondary question, for by referring to what takes place in the uterus we find that tumours, such as those now under consideration, of a non-fibrous substance, are formed in that organ.

M. Cruveilhier has given, as a diagnostic sign of the tumours which he has described, that they do not adhere to the neighbouring parts, and are, moreover, very moveable; but so likewise are encysted cancers. He has stated that they contain small pouches filled with liquid; and, very often, so do cancerous tumours. Fibrous tumours, it is said, do not grow again when they have been removed: but certain scirrhous tumours, especially the encysted, enjoy the same privilege. Is it true that they have not the power of degenerating? I cannot think so. The signs given by M. Cruveilhier as diagnostic, are drawn from the progress and mode of nutrition of the tumour, and are therefore posthumous characters, useless in diagnosis. Ought the surgeon to operate? If a certain diagnosis can be made, no doubt can exist as to the answer to this question. But as we have seen, this is far from being the case. And since cancer may, and indeed often does assume the characters of a fibrous tumour, I maintain that it is much better in such circumstances to operate than to abstain from doing so, as delay only increases the danger of relapse.

M. Rochoux supported the views of M. Blandin. He also remarked, that it was matter of regret that M. Cruveilhier had not studied with the aid of the microscope the kind of tumours which he had described. Normal fibrous tissue is very difficult to distinguish, by means of the microscope, from cellular tissue. No essential difference can be seen between the tendon of a muscle and cellular tissue taken from the interstices of muscles. But cellular tissue of new formation presents a great irregularity—a sort of confusion in the interlacement of its fibres. To attain, therefore, exact views, it is necessary to study what may be termed the embryology of tumours.

M. Gerdy thought that in some cases the diagnosis of the tumours mentioned by M. Cruveilhier was possible, but in others quite impossible. There exist indurated tumours, moveable under the skin, of greyish colour, and fibro-cartilaginous consistence, grating under the knife, divided into lobes, and resembling in every point those which M. Cruveilhier has described; but these correspond with the *irritable tumours* of Sir Astley Cooper. M. Gerdy would divide tumours of the breast into three classes—the malignant, the benign or non-malignant, and those whose nature is doubtful, which are generally non-malignant, but occasionally susceptible of degeneration. He thought it advisable to operate in every doubtful case.

M. Velpeau thought that M. Cruveilhier had included under the head of *fibrous* tumours some which ought rather to be called *fibrinous*, and which are apt to arise from the organisation of fibrine effused after a blow on the breast. There is an essential difference in the organisation of benign and malignant tumours, the latter of which offer various forms of globules and cells. He believed that in the living subject, the diagnosis must often be impossible, and thought the patient's age the best criterion for the surgeon.

After a brief reply from M. Cruveilhier, and some observations by M. Moreau, the discussion was adjourned.

M. Blandin immediately afterwards produced a tumour which he had extirpated from the palatine vault of a patient in the Hôtel Dieu. He handed it to M. Cruveilhier, and asked him, what was its nature? M. Cruveilhier having pronounced it cancerous, M. Blandin said that it presented all the characters which M. C. assigned to his fibrous tumours.

6th February.

Adjourned Discussion on M. Cruveilhier's Memoir.—M. Roux denied that fibrous tumours originate only in fibrous organs. They grow in the uterus; and every one knows that that viscus is in no respect fibrous; there, the tumours are encysted, which they are not elsewhere; they may pass from a cartilaginous to an osseous condition, which does not happen in the breast; and hence it is a false analogy which M. C. has attempted to establish between the fibrous tumours of different parts.

M. Roux next proceeded to dispute *seriatim* all the assertions of M. C. Surgeons have long known that there are benign and malignant tumours of the breast; and with regard to the first class, their knowledge is more advanced than the author of the memoir is aware of: they do not confound with one another different kinds of benignant tumours as he has done; they are acquainted, for example, with those hard masses, which form in the mamma, analogous to engorged lymphatic glands, with those others analogous to tumours observed in the course of nerves, with others again, described by English authors, analogous to mammary substance, and therefore termed mastoid.

Fibrous tumours, we are told, are common, and frequently give rise to mistakes. This opinion I cannot doubt. Hitherto, surgeons have been told that they act wrong in removing these tumours, as they will be reproduced; but again it is said that we err in excising those which never would grow again! It is not always possible to ascertain the nature of a tumour within the mamma, and the distinctions laid down in books must be illusory, when we find mistakes committed by the most experienced practitioners. Frequently even, there is diversity of opinion as to the anatomical character of a tumour which has been removed. Is it true that fibrous tumours do not degenerate ? This is matter of doubt; but one thing is certain, that all topical and resolving remedies have no influence on these tumours, and that their spontaneous resolution must, if it ever take place at all, be regarded as an exception to the rule.

Must we operate? The presence of these tumours is a disagreeable deformity for a young woman, as well as a source of extreme anxiety. And besides, we have as yet no certain means of diagnosing between the cancerous and the non-cancerous mamma and tumour. The operation ought therefore to be performed, were it only to tranquillize the patients, the more especially since we know that the removal, even of a very large tumour, from the breast, is one of the least serious operations in surgery.

As to relapses, M. Roux remarked, that he believed them to be less common than was generally supposed: those originating in a local cause were less apt to grow again than those dependent on constitutional diathesis. Tardy recourse to operation, by allowing the disease to become inveterate, and infect the whole economy, was one cause of relapses.

13th February.

Adjourned Discussion on M. Cruveilhier's Memoir.—M. Cruveilhier spoke at great length in reply.

As to my first proposition—that fibrous tumours occur in the breast, M. Roux has not, I think, pronounced a definite opinion. I have proved that fibrous tumours do occur in the breast. I have stated their anatomical character with precision. They resemble fibrous tumours of the uterus, with some trifling modifications. Pathological species are like zoological species. The latter are modified by temperature, by climate, &c., whence arise alterations constituting varieties, which varieties, however, retain all the characters of the species. In like manner, in pathology, diversity of situation impresses on accidental products modifications which do not annul their specific characters. M. Roux reproaches me with not having added anything to the existing amount of information on this subject. I quite agree with him in this respect, though I maintain, and think I have proved, that I have given a new importance to known facts, and placed them in a more prominent point of view than hitherto has been done. Bayle, in his treatise on cancer, devoted a chapter to fibrous tumours of the breast. Paré, Morgagni, and many others, have spoken of them. Astley Cooper has most accurately described fibrous tumours, but how does it happen that, after stating that they differ from cancer, he adds, that they may become cancerous? Evidently, he has confounded different species. MM. Velpeau, Blandin, Bérard, and Gerdy, admit the existence of fibrous tumours of the mamma; and the fact cannot be any longer questioned. M. Roux says that surgeons are better informed on the subject than I seem to be aware of, and has enumerated the several species of tumours they recognise. But can we attach any very precise idea to those *strumous* tumours of which M. Roux spoke, and which are not the same as *scrofulous* tumour, but are analogous to *neuroma*? Can we admit that the diagnosis is satisfactory, when so experienced a practitioner as M. Roux mistook a hydatid cyst for a cancer, and when analogous facts have been recorded by Cooper and by Bayle? I maintain, that as fibrous tumours of the mamma are bodies which cause no inconvenience, their removal is an operation of complaisance. M. Roux disputes this proposition, which does not surprise me, as he and I differ in principle. My fibrous tumours cannot degenerate, his may become cancerous. I rejoice to be able to oppose Sir Astley Cooper's authority to that of M. Roux. [M. Cruveilhier here read a long extract from Sir Astley's work, showing that he thought fibrous tumours incapable of degenerating.] I maintain, then, that in theory the operation is unnecessary, and that in practice the entire question is one of diagnosis. And on this point I may observe that M. Roux, in my mind, is greatly more accurate in his diagnosis than he seems to think himself, for how otherwise could he have assured the patients of whom he spoke that they were exempt from all danger of relapse; how otherwise can we explain his satisfaction at having effectually and definitively rid his patients of the disease which excited such serious alarm? I persist, therefore, in maintaining all the propositions I advanced.

M. Amussat.—The discussion raised by M. Cruveilhier's memoir is not simply a question of pathological anatomy, but one of surgical practice, on which every surgeon is called to give his opinion. Our colleague maintains, first, that fibrous tumours of the breast are *extremely* frequent, and are often mistaken for, and extirpated as cancer; secondly, that he has frequently seen fibrous tumours of the breast removed, which had been supposed to be cancerous. But in his memoir he cites only one case of the kind, and it is anything but conclusive. These two propositions deserve an attentive examination; they mutually depend on each other; and are calculated to throw doubt and uncertainty on our practical proceedings, and to fix on surgeons the reproach of performing useless or dangerous experiments. As to the *extreme* frequency of fibrous tumours of the mamma, I must differ from M. Cruveilhier, despite the great weight of his authority, and am satisfied that they occur very rarely. Doubtless, M. Cruveilhier must have frequently met with such tumours in the breast, but it would have been very satisfactory had he adduced statistical evidence of it, and had he produced the tumours to enable their anatomical characters to be verified. In Dupuytren's museum there are numerous fibrous tumours of the uterus, but very few of the mamma. During the four years I was *interne* at the Salpêtrière, I collected a great number of fibrous and bony tumours of the uterus, and very few of the mamma. M. Cruveilhier was physician at the Salpêtrière for many years, and though he mentions in his memoir having there seen many fibrous tumours of the uterus, he does not say that he met with many similar tumours of the mamma. It is impossible, then, for me to admit the alleged great frequency of fibrous tumours of the breast, for as, by hypothesis, they are not susceptible of becoming cancerous, they should very often occur in females advanced in life; and yet are very seldom met with at Salpêtrière. Inasmuch, then, as M. Cruveilhier has not proved the analogy between fibrous tumours of the uterus and of the mamma, he is not justified in saying that surgeons are often mistaken on this point. Are not almost all tumours of the breast at first moveable, detached from the mammary gland, and indolent? but yet, what is the termination of the tumours, thus presenting the characters assigned by M. Cruveilhier to fibrous tumours? They ultimately become cancerous, and relapse, if extirpated at too late a period. The diagnosis is difficult, if not impossible. M. Cruveilhier's second proposition is, that surgeons are every day mistaken in thinking that they extirpate cancers, when they in reality are dealing with fibrous tumours. I should be glad, indeed, could I coincide in this opinion, for we should then have to lament much fewer cases of relapse. But see the predicament in which surgeons are now placed. M. Cruveilhier deprecates an operation if the tumour is fibrous; others deprecate interference if it is cancerous. Consequently, we should never interfere with any tumour of the breast. What result is M. Cruveilhier's memoir naturally calculated to lead to? Why this, that females with tumours of the breast will be induced to regard them as fibrous, and will be still more repugnant to submit to an operation which even at present is for the most part performed too late; of necessity, therefore, if this opinion gains ground, relapses must become still more frequent in proportion as the operation is delayed. There can be no doubt that this discussion will enlighten well-informed judicious practitioners, but unfortunately the great majority—the common herd of physicians—will only recollect the new proposition advanced by M. Cruveilhier, which they will adopt, propagate, and at the same time exaggerate; and their opinions, thus lightly formed, cannot fail to effect much mischief, as it is easy to persuade people that surgeons are too fond of cutting. But this reproach, which is too readily countenanced by physicians, can apply only to such practitioners as act without fixed and determinate principles, and who therefore resort to operations before they have done everything that can be done to avert their necessity. As respects tumours of doubtful character, and which may possibly degenerate, I repeat and maintain that they should be promptly removed; for, admitting that the tumour is benign, if we operate on it while it is yet small, we save the patient from the much more serious operation, which she would ultimately be compelled to submit to when the tumour acquired such a size as to produce much inconvenience. *Fibrous tumours* of the breast are the *exception—scirrhous* tumours are the rule.

[At the conclusion of his speech, M. Amussat exhibited a cancerous tumour of the breast, which he had recently removed from a woman, aged 62, and which had for many years presented all the characters assigned by M. Cruveilhier to fibrous tumours; at length, it increased in size, became painful, and acquired all the symptoms of cancer.]

M. A. Bérard.—As to the frequency of fibrous tumours of the breast, I also studied it for a long period, and I never saw there any tumour at all similar to fibrous tumours of the uterus. Those who have combated M. Cruveilhier's views have said that the diagnosis is very *difficult*, but they should have gone further, for the diagnosis is *impossible*. We find all the characters attributed to fibrous tumours, presented by cysts, encysted cancers, &c. The character indicated by Sir A. Cooper as distinguishing benign tumours, viz., that they are lobulated, is not, in my opinion, by any means so constant as he supposed. The diagnosis, then, being impossible, the consequence is inevitable; we must operate, and not to do so is to incur an immense responsibility.

M. Lisfranc.—During fifteen years, I instructed numerous pupils in the operations of surgery, and consequently I have removed numberless breasts, and never omitted carefully to examine any tumours they might contain, but only in very exceptional cases did I meet with fibrous tumours; cancer, and its several varieties, on the contrary, occurred most commonly. If, then, we recollect that any number of tumours of the breast admit of being discussed by skilful treatment, that fibrous tumours cannot be discussed, and that cancerous tumours occur so frequently, we must come to the conclusion, that fibrous tumours are rarely indeed developed in the female breast. As to diagnosis, fibrous tumours are, it is said, very moveable; but every surgeon knows that malignant tumours may be loose, and roll under the skin. The mammillated surface of fibrous tumours has been spoken of, but cancers frequently present that character, and fibrous tumours sometimes want it. Hardness is common to fibrous tumours, simple white indurations, and scirrhus. The stationary condition of fibrous tumours is said to distinguish them from other tumours, but one must have seen little indeed of practice not to be aware that there are tumours which remain stationary five, ten, fifteen, twenty—aye, thirty years, and then suddenly undergo an enormous and frightfully rapid augmentation of size. Which of us has not been consulted by females between the ages of 45 and 50, who state, "I have had a tumour in my breast for many years; it did not increase in size, and gave me no inconvenience, but a short time back it began to grow larger, and became very painful." On examination you find an enormous tumour, sometimes ulcerated, and always malignant. I dwell on those familiar facts, because I deem it a most serious responsibility to lead women into a false security. If such tumours were removed early, the unhappy patients would be saved from the almost inevitable chances of relapse.

A few days since, I extirpated a fibrous tumour which was the seat of lancinating pains. It may be said that the tumour itself was not the seat of the pain;—granted—for a fibrous tumour situated on a nerve inevitably occasions severe pain. I maintain that there are no characters diagnostic of fibrous tumours; that to procrastinate the removal of tumours of the breast is to expose the patient to the risk of cancerous affection; that it is better to remove a fibrous tumour at once than to run the risk of having afterwards to remove a cancer liable to relapse; and finally, I maintain that fibrous tumours are not in themselves harmless. I have several times seen fibrous tumours of the uterus, which had evidently become cancerous, and can we admit that fibrous tumours of the breast alone possess the privilege of not degenerating? I utterly dissent from M. Cruveilhier's opinions, as calculated to lead to the most disastrous results, and to produce the most cruel disappointments both to practitioners and patients.

February 27.

Adjourned Discussion on M. Cruveilhier's Memoir.—M. Cruveilhier.—I am satisfied that none of my propositions have been, in the slightest degree, invalidated; on the other hand, I am certain that no reply I could make would convince those who differ from me. The discussion, nevertheless, will not be fruitless; it will render palpable the hiatus in surgical knowledge that exists respecting those tumours. Such of my colleagues as seem to think that I have brought a kind of accusation against surgeons are greatly mistaken: I merely accuse the insufficiency of science. The whole question in my view resolves itself into a question of pathological anatomy. The different points which I think require examination may be thus stated:—1. Is the morbid species, termed *fibrous tissue*, capable of cancerous degeneration or not? Are there any known facts which prove such degeneration to have actually occurred? 2. Is the breast subject to the development of fibrous tumours—that is to say, tumours not capable of becoming cancerous? 3. If the answer is in the affirmative,—then do any positive characters exist by which we can distinguish fibrous tumours from circumscribed or encysted cancers? 4. Are there any cancers purely local at first, so that all chances of relapse are obviated by removing them? Or are there cancers of such a nature, that their extirpation only adds new vigour to the malady? The solution of these questions would elucidate everything connected with tumours of the breast. I shall not now attempt to examine these questions; not that I shrink from the discussion, but because I think it impossible at present to come to a satisfactory conclusion. I therefore propose that the discussion shall be suspended, and that a commission be named to investigate the whole subject, and I would solicit the honour of being a member of that commission.

M. Lisfranc.—I was hitherto under the impression that the question was to discuss the propositions contained in M. Cruveilhier's memoir; but now it appears that he seeks to shift his ground, and to run from a practical to an anatomical question. His memoir was written to prove that tumours of the breast could be diagnosed, and that question ought not to be cushioned by travelling into a collateral issue.

M. Cruveilhier.—M. Lisfranc apparently has not read my memoir; if he had, he would have seen that it involves two questions: 1. Anatomical diagnosis; 2. Clinical diagnosis. I think I have proved, that the anatomical diagnosis is not yet established, and until it be, the clinical diagnosis is impossible. My firm conviction is, that fibrous tumours are developed in the breast: and surely the first step is to determine their anatomical characters before we proceed to study their clinical diagnostic signs.

M. Blandin.—The questions discussed in M. Cruveilhier's memoir are very precise; they relate to an anatomical point and a question of diagnosis; and the author formally comes to the conclusion, that fibrous tumours should not be operated on. But now he shifts the question, and during the postponement demanded by M. Cruveilhier, we shall lie under the reproaches which he has imputed to us. M. Lisfranc was far indeed from undervaluing pathological anatomy, but in the present instance, absolutely nothing was done until the clinical diagnosis was established. The whole matter came to this. A tumour of the breast being given, should it be removed or not? But in the present state of science an accurate answer to that question was impossible.

M. Roux observed that M. Cruveilhier had refuted his own proposition; he has just said that the anatomical diagnosis of tumours of the breast was not yet established; but in his memoir he indicates certain diagnostic signs as conclusive!

M. Cruveilhier said he did not understand the objections which were made to his proposal. Every question, whether in medicine, in surgery, or pathological anatomy, was intimately connected with others, and no one point could be isolated and separately dealt with.

[At five o'clock, the sederunt closed amid uproar, without any thing definite being decided on, regarding the proposition of M. Cruveilhier.]

5th March.

Adjourned Discussion on M. Cruveilhier's Memoir.—[After a stormy debate, the proposition made by M. C. referring the subject to a commission, was negatived by a large majority.]

M. Blandin spoke at length. He argued that, if there was no certain way of diagnosing between malignant and non-malignant tumours of the mammæ, the natural course would be to remove them.

M. Cruveilhier having replied, the debate was again adjourned.

12th March.

Adjourned Discussion on M. Cruveilhier's Memoir—[Much that was said during this sederunt, was in substance a repetition of what had formerly been stated.]

M. Hervez de Chégoin not being able to attend, addressed a note to the Secretary, which was read. It terminated with the following conclusions:—1st, Various kinds of hard tumours grow in the mammæ, incapable of degeneration, some of which are, and some of which are not, fibrous. 2d, In their case, operation is not necessary. 3d, The removal of suspicious tumours at an early period of their growth does not diminish the chance of recurrence. 4th, The long duration of the affection, far from lessening, increases the probability of cure. 5th, Mere observation *(l'expectation)* is not always the proper practice. Many unforeseen circumstances may hasten the operation. 6th, The advice to operate promptly, from a belief in the local origin of the tumour, rests on no correct foundation. 7th, This local origin of the disease is far from being probable.

M. Amussat next spoke at great length, and in the course of his speech cited many cases from his practice. He argued against temporizing with mammary tumours about which there was the slightest suspicion.

19th March.

Adjourned Discussion.—The speakers were MM. Gerdy, Dupuy, Lisfranc, Blandin, and Amussat.

26th March.

Adjourned Discussion.—After speeches by M. Roux and others, a desultory debate arose as to the closing of the discussion. Three motions were made:—1st, That the discussion be concluded, the right of reply being reserved to M. Cruveilhier; 2d, That all those who had not spoken, and had given in their names as intending to address the Academy, be allowed to do so; 3d, That the discussion go on. The first motion was carried.

M. Cruveilhier.—Several of my colleagues have said that in the course of the debate I have made many concessions; and some have even congratulated me on amending my opinions. I have done no such thing. The doctrine which I have defended is not a pre-conceived one; it is based on anatomico-pathological researches, and much continuous clinical study, and the conviction which they have left on my mind has not yet been shaken. After recapitulating and illustrating all the propositions of his memoir, and replying at length to his opponents, he sat down.

[After some discussion, permission was given to the inscribed who had come with written speeches, to lay them on the table that they might be read at next meeting, and inserted in the next number of the *Bulletin.*]

2d April.

On the Hereditary Nature of Mental Disease. By M. Baillarger.—M. B. read a note on this subject, and at the same time presented an atlas of statistical tables, containing a summary of 600 cases of hereditary mental disease. He proposed the solution of the three following questions. 1st, Is madness of the mother (all other circumstances being equal,) more commonly hereditary than that of the father. 2d, In cases of hereditary madness, when the disease descends by the mother, are more of the children affected than when it descends by the father? 3d, Has madness a tendency to be transmitted from the mother to the female, and by the father to the male offspring.

First question.—In 453 persons in whom the disease was transmitted in the direct line, it descended,

By the mother, in	271	cases.
By the father, in	182	do.
The difference is	89	or one-third.

Second question.—In 271 families in whom the disease was transmitted by the mother, it had manifested itself at the period when the cases were collected,

In one child only	203	times.
In two children,	62	do.
In three do.	5	do.
In four do.	1	do.
	271.	

The total number of mad children being therefore, 346. It appears from this statement that madness was transmitted to several children 70 times out of 271, *i.e.*, in more than one-fourth of the cases.

In 182 families in whom the disease was transmitted by the father, it had appeared at the time when the cases were collected,

In one child only, in	152	cases.
In three children, in	26	do.
In four do.	4	do.
	182	

So that there were in the 182 families, 216 mad children. The father's madness, therefore, was transmitted to several children 30 times out of 182, *i.e.*, in one sixth of the cases. From this it appears that the mother's madness is the most frequently hereditary, and, other circumstances being equal, attacks the greatest number of children.

Third question.—Out of 346 children who inherited insanity, there were 197 girls, and 149 boys: the difference being 48, or one-fourth. Out of 215 children to whom the disease was transmitted by the father, the number of girls was 87, and that of boys 128: the difference being 41, or one-third. From these statements it also appears that of 271 male children, 126 inherited insanity from the mother, and 125 from the father: so that the difference was hardly one-sixteenth. On the other hand, with regard to the females, it appears that, of 274 who inherited the disease, 189 from the mother, and only 85 from the father: the difference being 104, or more than one half. Hence it clearly results, that the male offspring derive insanity with equal frequency from the father or mother; but that females do so twice as often from the mother as from the father.

From these facts, the author concludes:—1st, That the disease of the mother is more dangerous than that of the father, not only because it is oftener hereditary, but likewise because it is transmitted to a greater number of children. 2d, That the girls are oftener affected when the disease is transmitted by the mother, and boys by the father. 3d, That its transmission from the mother to boys is not more frequent than from the father, whereas, in girls, it is twice as much.

On the Danger attendant on Myotomy in Deviations of the Spine. By M. Malgaigne.—The author, after criticising the statistical table of M. J. Guérin, concludes thus:—"The greatest difficulty is, not to straighten the vertebral column, but to restore to it the solidity it has lost, by strengthening its ligaments and its muscles; and this is so palpable and so constant, that it may be considered as one of its principal causes. Six years ago, I condemned the different apparatus invented to straighten the column, as being only fit to weaken the ligaments and muscles. To-day, I will add that, in order to strengthen a muscle, its division is a very bad means, and experience has proved that this is the case."

The following members were named by the president to examine this memoir:—MM. Amussat, Louis, and Jobert.

M. J. Guérin requested to be heard on account of *personality* (*fait personnel*), but several members—as M. G. began to discuss the subject contained in the memoir, (and as this was against the rules of the Academy)—protested against his being allowed to continue. This incident caused considerable tumult, during which M. G. said a few words on the attack made against him.

M. Nacquart requested that Professors Roux and Velpeau might be added to the commission.

M. Guérin opposed the nomination of the latter, as his decided adversary.

Professor Velpeau.—"Though the honour of forming part of a commission is not always the most agreeable, still, as I am opposed, I request the favour of being named. It is not M. Guérin's, but M. Malgaigne's memoir, upon which I am called to give my opinion, and I cannot allow M. G. the right of vetoing a commissary named by the Academy."

The proposition of M. Nacquart was then carried, with only one dissenting voice, after which the meeting broke up amid great uproar.

TO CORRESPONDENTS.

"Books Received" deferred for want of room.

Original Communications received from Drs King and Lawrie; Professors Simpson and Allen Thomson; and Mr Rankine, will be inserted.

Other Papers have come to hand regarding which we will communicate with the authors by private letter, if this has not been already done.

A Correspondent in Carlisle had the goodness to transmit a copy of the Dispensary report, with some interesting cases in MS. We have mislaid the letter which accompanied them, and will feel greatly obliged to the writer to send us his name and designation, that a proper title may be prefixed to the cases, which will appear in next Number.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Case of Death following the excessive use of Ardent Spirits; in which, appearances simulating Irritant Poisoning were found on Dissection: with Medico-legal Remarks. By* JOHN INGLIS NICOL, M.D., *Inverness.*

THE very interesting case, published by Mr Barbieri in the March Number of the MONTHLY JOURNAL, has induced me to transmit the following, which also involves important medico-legal considerations.

J. F., a young man about twenty-six years of age, retired to rest at the usual hour, in high health and excellent spirits, on the night of the 1st curt. He had not been in bed above an hour when he was roused by four young men, acquaintances, whom he accompanied to a public-house. Before he joined them, they had indulged, at the same place, to the extent of a pint of whisky; at this time they had three additional gills, of which the deceased had a share. On leaving the house they walked together about 300 yards, when two of the party took a different direction, towards their homes, leaving the other two to accompany deceased to his residence, as he appeared to be very tipsy. They had walked but a very short way up an acclivity, when he fell, uttered a few words, and immediately afterwards became quite insensible. Fancying that he was merely very drunk, his companions attempted to carry him home; but as the access thereto was very difficult, first up hill, then with a considerable space intervening, and afterwards down several flights of narrow and steep stairs, and as deceased was a man of great muscularity, and heavy weight, it was with considerable toil, that they at length succeeded in placing him in his bed, partly by carrying, partly by dragging a few yards at a time. They left him immediately thereafter, without giving any intimation to his fellow-lodgers of his condition. They could not say whether he was dead at this time, as they had left him under the impression that he was only drunk. One of the young men who carried him home, apprehensive that he might be ill in consequence of his intemperance, paid him a visit on the following morning at 7 o'clock, when he found him dead, and lying exactly in the position in which he had been left.

Drs Manford, Wilson, and myself, examined the body, by order of the sheriff, seven hours after he had been discovered in the state just described. The body had been laid out and dressed. The features were placid, but rather pallid. We observed a few scratches or abrasions on the left cheek, which were entirely superficial. The back, and depending parts of the body, as it lay, were very livid; and under the angles of the jaws, and along the sides of thè neck, the colour amounted to a deep purple. No other external marks were discernible.

The thoracic viscera were perfectly healthy, and although the lungs in several places were congested, there was no sanguineous or other effusion into this cavity.

In the abdomen, the distension of the larger gastric and gastro-epiploic veins attracted immediate notice. The liver was also congested, but not altered in structure. On opening the stomach, an evident odour of ardent spirits was emitted. The contents being carefully collected and put aside, this organ, together with the greater portion of the œsophagus, and a large portion of the intestines were removed and opened up to view; when a most extraordinary appearance presented itself. The whole of the mucous membrane, from about half-way up the œsophagus, along the whole extent of the stomach, and for about eighteen inches down the intestines, was highly injected. The vascularity of the corrugated part of the stomach was of a deep crimson colour throughout its whole extent. The œsophagus and intestines presented a like appearance, but the colour was less intense, gradually fading until it merged into the normal straw colour of the healthy structure. The uncorrugated plane immediately preceding or adjoining the pyloric orifice was highly vascular, of a bright scarlet or vermillion colour, evincing arterial injection, while the rest seemed to be decidedly venous. Several large patches of viscid mucus were adherent to the more depending parts of the stomach. These were detached with so much difficulty as to lead us all the time to imagine that they were coagulated lymph; but there was no erosion or any extravasation or sanguineous stain on any part of the exposed surfaces, neither was there any effusion into the abdominal cavity, and all the other viscera were perfectly healthy.

During our examination of the head, a large quantity of liquid blood flowed from the divided vessels; apoplectic congestion of the vessels of the investing membranes was very evident; the brain was in other respects healthy.

In our report, we expressed the opinion, that death was caused by apoplexy, superinduced by the excessive use of ardent spirits; but that whether the remarkable state of the œsophagus, stomach, and intestines, was referable to the alcoholic stimulus alone, it was impossible to determine without a chemical investigation. This was in consequence of our suggestion immediately ordered.

The examination was conducted with great care, but not a trace of irritant or corrosive poison could be detected, the alcoholic aroma alone being developed in progress of our operations; and even this was much less intense than might have been expected under the circumstances.

It was ascertained that some years ago the deceased was extremely intemperate in his habits; but latterly he became very much changed, and it was observed by those who knew him, that a very small quantity of ardent spirits would throw him into a state of excitement.

The exact time at which he expired could not be determined; neither, whether he exhibited symptoms of gastric inflammation prior thereto, but it may, to some extent, be inferred that he did not, as he was not observed to vomit while being carried home, nor was there any trace of ejection on the bed-clothes.

Remarks.—That the vascular appearance of the villous structure, described in the preceding case, should have given rise to suspicions of a serious nature may be easily imagined, but it has been shown in an able paper, by Dr Yellowly, published in the fourth volume of the *Transactions of the London Medical and Chirurgical Society*, that such cases are of more frequent occurrence than is generally supposed. In this valuable communication the appearance of the stomach after death from a variety of causes, is given in seventy cases, and also details of the state of the same organ in five malefactors, who had suffered death for murder, and who were in good health before their execution. In all cases the vascularity occurred in patches of greater or lesser extent, some were crimsoned, some florid, and some exhibited appearances of extravasation in various forms and points. The present case, however, was, though in strict corroboration, somewhat different,—certainly different in degree, for the whole surface of the villous membrane was of one dense deep crimson colour, save the portion near the pylorus, which was not less vascular, but of scarlet hue. The plicæ and sulci were alike injected, nor could the smallest speck of the normal straw colour be perceived. Dr Y. states that "The appearances" I have described "preserve their distinctness for but a short time, being marked only, on the first day, and soon after, but at irregular periods, becoming more obscure; the parts which are vascular acquire a dusky red or purple tinge, which loses itself gradually." In the present case, however, on looking into the stomach on the following day, the intensity of colour seemed to be in no way diminished.

In his concluding remarks, Dr Yellowly says, that, "from the statements which he has given, it may, he thinks, be inferred, that in the villous coat of the stomach, appearances of vascular fulness, whether florid or dark-coloured, in distinct vessels, or in extravasations of various sizes, are not to be regarded as unequivocal marks of disease. They occur in every variety of degree in character, under every circumstance of previous indisposition, and in situations where the most healthy aspect of an organ might be fairly expected. They are found in every part of the stomach, but principally in the posterior part of the great end, and in the lesser curvature; and they cover spaces of various extent, but are generally well-defined and terminate abruptly." The Doctor adds, that in young subjects these appearances are less frequent, and when they do occur, the vascularity is less intense than in adults. Their similarity to one another, as exhibited in the stomachs of the malefactors whose cases he has detailed, and their general resemblance to the appearances found in the stomachs of persons who have died a natural death, he describes as very striking. In the former, however, he says, the vascular character is more universal and more vivid, and there is, besides, a disposition to effusion of blood into the cavity of the stomach, which does not occur in the latter; and he accounts for these differences, by the circumstances in which the vascular system is placed, before the total cessation of life, in persons who die by hanging: "In these the usual disposition to vascular fulness in the stomach is increased by the loading of the venous system, which occurs in consequence of the difficult transmission of blood from the right side of the heart, during suspension."

In all cases of cerebral congestion, whether from hanging, drowning, apoplexy, or other causes, the condition of the nervous system generally must be very much alike, differing in degree only as influenced by the suddenness of the exciting cause, on the one hand, and the plethoric state of the individual on the other; hence, if those appearances in the stomach be the invariable result of such congestions, it may naturally be inferred, that they will be more intense in robust and plethoric subjects, as exemplified in the present case, than in persons whose systems have been attenuated and exhausted by pre-existing disease. It remains, however, for future investigation to determine, whether, in all cases of natural death, where such appearances are discovered, cerebral congestion to any extent actually takes place a short time before life becomes extinct, or whether they are discernible where no such congestion can be said to have existed.

I have examined the stomachs of several persons, both adult and young children, who have died from taking arsenious acid. On looking over my notes, I find, that the appearances, though in some respects similar to those adverted to in the preceding case, were in others strikingly different. In the stomachs of the poisoned, the inflamed patches were entirely referable to the prominent parts of the plicæ, which had dark-brown spots or streaks interspersed, giving them a mottled appearance, while the sulci remained unaltered, and of the natural straw colour; but the inflammation of the pyloric plane was in both cases precisely similar in degree and colour, with the difference only of patches of coagulable lymph being deposited on the surface inflamed by poison, while the other was entirely free from it.

In conclusion, I will merely remark, that although future investigations may furnish such collective evidence of authenticated facts, as may lead to more perfect and satisfactory views of this important subject, I apprehend that in the meantime, in cases of sudden death, of persons found dead, or of death occurring under suspicious circumstances, and where inquests usually follow, no man with such appearances before him, can be warranted in expressing an unqualified opinion as to the real cause, without the testing ordeal of chemical investigation.

INVERNESS, 24th April 1844.

ARTICLE II.—*Penetrating Wound of the Abdomen;—Delirium Tremens;—Recovery.* By J. TENNENT, ESQ., *Brighton.*

J. A., aged 48, a shoemaker, on the 23d of April 1840, returned to his wife after an eight days' debauch, to get a fresh supply of cash, for the purpose, as she imagined, of enabling him to prolong his dissipation and absence from business. She therefore met his demand by a decided refusal; and the better to maintain her determination, possessed herself of a knife used in her husband's trade, and took up her position in front of a cupboard, in which the money was kept, swearing that she would run it into him should he approach, as he threatened, to break open the safe. It was not the first time A—— had made a like demand of his wife under circumstances precisely similar, and had met with opposition nearly as bold. He, therefore, advanced, not imagining that the awful threat would be put in execution; but the wife did plunge the weapon into his abdomen.

In a distracted state she ran for immediate assistance, exclaiming, that "she had stabbed her husband." Proceeding at once to the patient, I found him stretched across a bed, with all symptoms of intoxication fled, and impressed with the idea that he was mortally wounded. Uncovering the abdomen, a protrusion of omentum and intestine presented itself from a wound running obliquely from below upwards and outwards, measuring an inch and two-eighths in length, and situated one inch dextrad of the linea alba, and an inch higher than the umbilicus. The patient was somewhat faint, although, as far as I could ascertain, he had not lost much blood. On the knife being produced, I found that the blade measured five inches, by one inch and an eighth; and that, three inches from the handle, it began to taper obliquely from the edge backwards, to a pretty fine point, thus proving that it must have penetrated to the depth of two inches at the very least, the broadest part of the blade corresponding very nearly with the length of the wound. The probe could be insinuated with facility, in several directions, to the depth of two inches and a half, without exciting any perceptible hæmorrhage. I could not discover any wound in the intestine, but as the patient received the thrust in the erect position, and when examined was recumbent, the relative position of the subjacent parts to the superficial incision, would necessarily be somewhat altered, so that it could not be concluded, that the bowel was not wounded; and as the best surgeons reprobate the practice of placing sutures in wounds of the intestines, such as that now under consideration, no good purpose could be obtained by placing the patient in different attitudes with the intention of satisfying the mind on the point. The treatment of the case was sufficiently evident; but from the probability of its becoming one for legal investigation, in fact, one involving the life of a second individual, I considered it of the highest consequence, that the medical evidence, in the event of its being required, should be as complete as possible. I therefore requested the attendance of that eminent practitioner, Mr Robert Dix, who promptly attended and examined the wound. I then replaced the protruding parts, brought the edges of the wound together by means of an interrupted suture and strips of adhesive plaster, securing the dressing by a roller-bandage brought round the body, which also served to restrain, in some measure, the action of the abdominal muscles. To assist in arresting internal hæmorrhage, should such exist, and at the same time procure evacuation of the bowels, he was ordered the following mixture:—*℞. acid. sulph. dilut. ʒj, magnes. sulph. ʒvj, tinct. opii ʒiss, infus. rosar. comp. ℥vj. Fiat mistura; cujus capiat cochl. iij ampl. quartâ quâque horâ.*

9 P.M., being seven hours after the infliction of the injury.—He seems to have regained hope; complains of no pain; the pulse is 86; the abdomen is somewhat distended, but not painful; bowels not opened.—*Pergat.*

24th, 9 A.M.—He has had a restless night, being always, when he felt inclined to go to sleep, disturbed by subsultus tendinum; nevertheless, he thinks that he slept a little; his pulse is 90, and weak, the tongue is coated and moist, and the mouth is constantly filling with secretion. Two motions have been passed, both containing a considerable quantity of blood, indicating, I think, a wound of the intestine. The patient is not subject to hæmorrhoids. Abdomen somewhat tender over region of wound; in other regions quite free from pain; tension greatly diminished.—*Sumat misturam sine magnes. sulph.*

8 P.M. Till within the last hour he maintained great calmness, and expressed himself as feeling very comfortable; but since that time, he has manifested a constant disposition to get out of bed; will not be restrained; talks incoherently to imaginary beings, whom he fancies to be seated around his bed. His pulse is fuller, but not increased in quickness. One motion has been passed since morning, quite free from blood. The abdomen is soft, and without pain.—*R. liq. opii sedat. (Battley.) gtt.xxxv, liq. ammoniæ acetatis ℥ss, syrupi ʒij, misturæ camphoræ ℥iss.—Fiat haustus, quartâ quâque horá sumend. donec delirium subigitur.*

25*th*, *Half-past* 1 A.M. The delirium has so increased as to alarm his friends, and induce them to request our attendance. The objects which flit before him have assumed so hideous a form, that he forgets that their existence is unreal, and has in consequence fallen into a dreadful state of agitation, with sleeplessness.

In struggling to get out of bed, the dressings have been displaced. There is an erysipelatous blush extending about three inches around the wound,—but no effusion seems to have taken place into the peritoneal sac, as the abdomen is free from distension, and continues soft and pliable. At present, no reliance can be placed on the answers he gives in reference to pain. The process of adhesion goes on favourably. Having readjusted the dressings, the draught last prescribed, with the addition of ten drops of tincture of opium, and five grains of sesqui-carbonate of ammonia, was ordered to be continued every three hours till the delirium was subdued.

9 A.M. After two draughts had been administered, he became quite composed, but his attendants say that he did not sleep. His countenance is vacant; the tremors have diminished; the pulse is 84, and languid; the salivary secretion is excessive; there is slight tenderness over the region of the wound; in other respects the abdomen is natural; the urine is scanty, and high coloured, abounding in lithates.—*To have an occasional draught of citrate of ammonia in the state of effervescence during the day; and the opiate draught at* 6 P.M., *unless he has slept in the interval.*

Half-past 9 P.M. He has not slept; the delirium has again set in, although not so formidably; the abdomen is somewhat tumefied, but not painful; the bowels have not been opened to-day; the pulse is 90; the pupils are slightly contracted.—*Continue the opiate draught as last ordered. R. hydr. chloridi gr.v, ext. hyoscyami gr. iij.—M. et ft. massa, in pil. ij dividenda.—Sumat statim.*

26*th*, 9 A.M. There is improvement in every respect. The crisis of the delirium took place early in the morning, and he has since slept for four hours; the expression of countenance is more natural; the subsultus tendinum has not been observed. The bowels have acted sufficiently, and the motions are neither sanguineous nor purulent; there is no deposit in the urine; the tumefaction of the abdomen is perfectly gone. He continues to take the effervescing draughts occasionally.

6 P.M. Adhesion of the wound is completed. There is a slight superficial purulent discharge, evidently caused by the suture, which has now been removed. There is no tenderness of the abdomen; the secretions are normal; and the patient is free from fever.—*R. tinct. opii gtt.xxv, ammoniæ sesquicarb. gr.viij, syrupi papav.* ʒss, *aquæ flor. aurantii* ℥*x.—Fiat haustus.—Sumat horâ somni.*

27*th*. He had a comfortable night; and expresses himself as feeling quite well.

May 3*d*. No unfavourable symptom has returned since last report; and he is permitted to-day to leave his room.

BRIGHTON, April 10, 1844.

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ARTICLE III.—*Case of Hanging, or Strangulation, attended with Anomalous Conditions. By* D. R. RANKIN, *Esq., Carluke.*

The case about to be detailed, presents features so unusual, that I have been easily induced to submit a short account of it to the consideration of the medical jurist.

A boy, 12 years of age, in service at a farm house in Carstairs parish, shortly after having taken dinner, in his usual good health, on the 5th of November last, was found in the byre dead, and as a rope was round his neck when discovered, it was naturally enough supposed that he had hanged himself. In due course of time the boy was buried, but those who had first seen him after death, by describing the position of the body, and the manner in which the head rested in the rope, excited in some, early suspicions—which of course were spread, and necessarily amplified—that the boy had come by his death by unfair means.

The case was ultimately made the subject of inquiry by the public prosecutor—the body was exhumed—and inspected twenty-six days after death.

The following is a transcript of the notes dictated during the inspection:—

" *Carluke*, 2*d Dec.* 1843.—Body full and well formed; incipient decomposition observable in inguinal region; usual discoloration of skin of back; hands and feet not clenched nor contracted, but skin corrugated from immersion;[1] neck free from marks of any kind; no constriction of the skin; no depression; no ecchymosis; the muscles and vessels lie in the neck undisturbed; *slight tumefaction in the situation of the parotid gland* on each side, but no discoloration; trachea moist, with thin blood-coloured fluid internally; otherwise normal; vertebræ not displaced.

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[1] The coffin floated in water at exhumation.

"Face full; no contortion; lips not turgid; tongue not protruding, nor swelled; eyes not protruding, nor eye-balls injected with blood; blood-coloured fluid oozes from the mouth and nose.

"Head without marks of recent injury; an old and extensive cicatrix exists on the forehead; behind, and a little above the right ear, a *small puffy tumour* is merely observable, but the integuments and skull corresponding to it present no marks of violence.

"Brain normal in appearance; no extravasation; no infiltration; no turgescence of vessels; and the part corresponding to the external tumour is of normal aspect.

"Lungs *inflated* to some extent—that is, not collapsed; they are not gorged with blood; their aspect is normal; adhesive bands extend between the pleuræ of the right side.

"Heart *flaccid, and empty on both sides;* it is otherwise normal in appearance.

"Abdominal viscera all in normal condition; stomach contains a considerable quantity of undigested food; bladder empty; no erection or enlargement of penis."

My coadjutor in the inquiry, Dr Gray of Lanark, concurred with me in a report, *based on the appearances observed on dissection*, to the effect, that there was no evidence that the boy's death had been caused by strangulation.

An air of mystery was now given to the case. A carefully conducted precognition—to take the law phrase—was proceeded with, and all the facts and circumstances were collected.

The short narrative which follows was communicated to me some days subsequent to the inspection, with a request that I would consider the matter at leisure, and give my opinion on the whole case.

The person who first saw the deceased after death describes him as sitting on the ground, with his back to one of the stakes or posts to which cows are bound—his head and body slightly bent forward—his feet extended before him, with one leg over the other, and his hands resting on the ground, by the sides of his body, as if asleep in an easy posture. On elevating the face, the countenance was found to be calm, the eyes and mouth shut; and it was only now discovered that the neck rested in a noose, formed in an aubin or shackle,—that is, an apparatus partly rope and partly wood, commonly used for binding a cow to its stake. It appears from the evidence, that the noose was not drawn firm, the lower part only being applied to the neck, the upper passing in the direction of the line of the under-jaw, formed by the inclination of the head, towards the occipital tuberosity, where the noose rested. Those who saw, and who assisted to dress the corpse, concur in stating, that there was nothing in the appearance of the body different from what is observed in cases of death under ordinary circumstances.

An aubin or shackle, I may mention, consists of a piece of wood eighteen or twenty inches long, slightly curved to the form of a cow's neck, in each end of which is a hole, and through these holes, pieces of rope are passed, with a knot on one end, and a loop on the other, measuring, when so formed, about two feet each. When in use, the knot and loop pass on either side of the stake, and are fastened after the manner of a loop and button. On relieving a cow, to send it to the field or elsewhere, the uppermost of these ropes only is loosed, and generally, for convenience, the loose end is thrown upon a nail about the top of the stake, the lowermost being allowed to remain in connection with the stake. Such is the instrument to which the boy was found attached, and such the manner in which it is generally left by servants; but in the case under review, the under portion of the shackle was not only loosed from the stake, but the rope of that portion was drawn into the loop, so as to form a running noose. The nail on which the shackle was hung, in the present instance, was a common stob nail, incapable of sustaining any considerable weight, and was driven into the stake at precisely five feet six inches from the ground. The shackle measured, when the noose was run quite up to the loop, four feet three inches, being, when suspended by the nail, fifteen inches from the ground; but when the noose was loosely formed, as when on the neck of the boy, the distance from the lowest part of it to the ground would be twenty-four inches. Now the boy was above the ordinary height and size of his age: he measured five feet two inches, and, by ordinary computation, would, when in the sitting posture, measure, from the ground to the apex of the spine, twenty-six or twenty-seven inches.

From these facts it is clear, that the act was premeditated by some one; and that suspension of the body was impossible.

When these details were furnished for my opinion, a question was also put, which I was requested to answer, namely:—If a blow with a blunt instrument were given upon the head, *so as to cause* INSTANT DEATH, might there not be an absence of extravasation of blood, or other external or internal appearances of violence?

My answer, written on the moment, and consequently somewhat diffuse, was to this effect:—

"Suppose death to have been caused by hanging, on inspection, in ordinary circumstances, we would have found; 1. Swelling of face, lips, and tongue, with blueness of the skin, protrusion of the eyes, blood-shot conjunctiva, &c.; 2. Marks of the rope would have been evident, as well as ecchymosis of the adjacent parts; 3. Effusion upon the brain, or great turgescence of its vessels; 4. Inflation and engorgement of the lungs, &c. Now all these symptoms, properly speaking, were absent in our case.

"In strangulation, we would only have had a modification of the conditions above enumerated.

"Suppose death to have been caused by a blow: A blow of any violence—one such as was likely to stupify or cause death—and vastly short of either, would (unless, perhaps, inflicted on the stomach or region of the heart) leave its indelible mark, easily discovered by the eye, and proved on dissection. A blow given even *after death* would produce appearances something similar to those during life, the cause being the same in both. The elastic tissues, skin, cellular membrane, and muscles, concussed by a hard body, have their minute vessels lacerated, and infiltration of blood into the tissues is the result, producing a purple, blue, or blackish appearance of the skin, redness of the cellular tissue, and when the blow has been heavy, a peculiar state, a semi-fluidity, as it were, of the muscular. In injuries received during life, distinct swelling usually accompanies these changes; while, in injuries after death, the tumour is generally absent. I may add, that the appearances caused by a blow or injury of the soft parts are also fairly simulated by the peculiar sugillations frequently seen on examining dead bodies—the one being commonly the result of gravitation of the blood, and the other of decomposition; but these to the experienced eye have their distinctions.

"I clearly hold, that a blow capable of producing discoloration, &c., in a living and healthy person, will produce the same, or nearly the same, effect if given just on the eve of death. Death instantly following such an injury, in my opinion, would not arrest the process, which, in fact, is in a sense momentary.

"I will now, again, take up the point of hanging and strangulation. To associate both with force and violence is common and natural; because the body in the one is almost always suspended by the neck, a cast of the body being often given in addition; and in the other, something is generally drawn round the neck. In either of these circumstances, the common appearances before adverted to would be well marked. But it is important, in the present case, to consider, what would be the result were a person simply and calmly to place his neck in the noose of a rope, with the intention of committing suicide, suspension of the body being an impossibility.

"Any person, and especially a young individual, whose trachea is very flexible compared to that of an adult, would undoubtedly, by the mere weight of the head in such circumstances, so compress the breathing passage as to cause death; and in such a case, I conceive, we would have no laceration of the minute vessels, and consequently, none of the discoloration usually seen in cases of strangulation; but it would be impossible, one would think, that a flexible material like a rope could be so used, without causing compression of the vessels, and especially the jugular veins, and under such circumstances, though the ecchymosis, &c., were absent, still swelling of the face, eyes, lips, &c., would have existed; moreover, an apoplectic congestion of the brain would have been expected to exist, besides the other usual appearances.

"To keep, however, to the facts of the case, as they have been brought out in the inquiry:—the head was inclined upon the rope forward, and the rope was applied to the anterior part of the neck only, the noose being open behind, and taking the line of the angle of the lower jaw, produced by the inclined position of the face. In this way, I find that the rope would pass from the anterior part of the neck, immediately to the cranium, behind the mastoid processes, forming on each side a bridge over all the important vessels passing to and from the head. Hence the absence of the usual appearances in the brain, face, &c. The weight of the head in the position it rested was inadequate, in all probability, to the total hinderance of breathing; and granting that the boy had placed his head in the noose, with the intention of committing suicide, it is natural to suppose that, for a short period at least, muscular action would be exerted to aid his purpose; still it is probable and likely that imperfect respiration would continue for some time. Hence the condition of the lungs observed on inspection."

Remarks.—There is no well-grounded cause for doubt remaining, that the death of the boy was a suicidal act. What is remarkable is the almost total absence of the pathological evidence, which cases of this nature in general so abundantly supply.

By adverting to the notes taken at the inspection, several facts (*printed in italics*) will be found recorded, which attracted particular attention at the time; but individually, or in conjunction, they bore so slightly on the point of inquiry that, in the absence of other evidence, no opinion could be based on them. The state of the lungs might have offered an exception; but they were inflated only in a slight degree, and in the absence of engorgement, and every other concomitant of strangulation, the probable accumulation of the gases from decomposition was assumed as the cause; but after a careful examination of all the evidence, I am now of opinion that the partially inflated state of the lungs resulted from imperfect respiration, continued for some time previous to death.

Though by no means prominently presented to observation, the slightly tumefied state of the neck, in the situation of the parotid gland on each side, and the small puffy tumour of the scalp, on the right side, situated midway between the gland and the tuberosity of the occipital bone, were strictly noted, and minutely examined at the inspection; but neither afforded the slightest evidence of their origin. There was not the smallest discoloration or disorganization of the parts. I am, however, now of opinion that the rope caused the tumefaction uuder the ear; and that the pressure of the knot of the loop, forming the noose, caused the small tumour of the scalp.

Another abnormal condition observed was the state of the heart: both sides were empty, while the organ was not contracted. As to this phenomenon, I can offer no opinion. The large vessels were examined in search of a cause, but no light was thrown upon the subject.

Two other points remain to be noticed.

The skin of the soles of the feet and palms of the hands was corrugated: this was most certainly the result of submersion after interment.

It may be questioned (as in this case it was),—whether after interment for nearly a month, and submersion during some portion or perhaps all that time, the usual external appearances observed in strangulation might not have been obliterated. On this point, after experiment, I am altogether satisfied that no such result could take place.

A case of strangulation presenting so many negative conditions, I have never met with, and, if at all worthy of being recorded, these conditions must constitute the principal claim to that distinction.

CARLUKE, 22d April 1844.

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ARTICLE IV.—*Contributions to the Statistics of Injuries of the Head. By* JAMES ADAIR LAWRIE, M.D., *Professor of Surgery in Anderson's University, and Surgeon to the Royal Infirmary of Glasgow; and* ALEXANDER KING, M.D., *Members of the Faculty of Physicians and Surgeons in Glasgow, &c. &c.*

(Continued from p. 310 *of April Number.)*

HERNIA CEREBRI.

The following table gives a correct outline of the situation of the injury, the nature of the symptoms, the date of the protrusion, and several of the *post-mortem* appearances, observed in thirteen cases of hernia cerebri. In all of them a portion of bone was removed by the trephine or Hey's saw, and in eight, the membranes were ascertained to be ruptured at the time of the injury, or operation.

TABLE OF THIRTEEN CASES

Name.	Age.	Date of Admission.	Situation of Injury.	Mental Powers.	Respiratory Functions.	Pupils.	Pulse.	Convulsions.	Paralysis.
1. J. F.	9	1st day.	Right parietal bone.	a. Insensible o. Insensible	Slow.	Dilated with strabismus.	76	On the 27th and 57th days.	...
2. K. M'I.	46	1st day.	Frontal.	a. Confused. o. Confused.	...	...	...	...	...
3. D. M'I.	27	1st day.	Parietal.	a. Insensible o. Insensible	...	...	...	...	...
4. D. M'M	40	1st day.	Over the course of the sagittal suture.	a. Sensible. o. Sensible.	Natural.	Natural.	75	...	Right side.
5. J. C.	14	13th day.	Over the right parietal bone.	Sensible.	...	Dilated.	84	...	Articulates with difficulty.
6. B. M'T.	26	1st day.	Over right parietal & temporal bones.	Sensible.	...	Natural.	60	...	...
7. C. M'C.	21	6th day.	Left parietal bone.	Sensible.	...	...	60 small.	...	...
8. R. T.	18	three weeks.	Left side of forehead.	a. A degree of stupor. o. Stupor increased.	a. Regular. o. Stertorous.	a. Dilated but contractile. o. Right contract. left dilat.	...	...	...
9. J. D.	40	1st day.	Upper part of the left parietal bone.	a. Sensible. o. Sensible.	...	...	100	...	a. Partial of right side; afterwards complete.
10. J. D.	8	1st day.	Left side of the forehead.	a. Sensible.	Natural.	Natural.	Small and weak.	Convulsions shortly before death.	...
11. P. J.	27	ten weeks.	Left temple.	a. Stupor. o. Stupor.	Natural.	Natural.	60	a. Convulsive motion of the muscles of the face.	Speech indistinct. Right half of body.
12. A. W.	20	4th day.	Left side of the head (parietal bone.)	a. Sensible. o. Insensible	...	o. Dilated and sluggish.	o. 104	o. Muscles of the right side of face moved convulsively.	Impediment in speech. Right side.
13. D. F.	26	2d day.	Superior and anterior part of the left parietal bone.	a. Sensible. o. Sensible.	Natural.	Natural.	76	...	Indistinct articulation, right side.

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[1] a. State when admitted.

[2] o. State when operated upon.

OF HERNIA CEREBRI.

Date and Effect of Operation.	Date of Appearance of Tumour.	Date of Death or Dismissal.	Remarks, Dissections, &c.
1st day, no change.	68th day.	158th day.	*Dissection.*—The tumour has receded within the cranium. The substance which formed the tumour is ascertained to be cerebral matter, and the brain beneath is soft and pulpy. There is an abscess with well defined walls within the middle and posterior lobes of the right hemisphere, containing ℥ix of well-formed pus. This abscess does not communicate with the lateral ventricles.
1st day, more sensible.	2d day.	44th day.	Dismissed cured.
1st day, no change.	1st day.	1st day.	No dissection.
1st day, no change.	6th day.	13th day.	*Dissection.*—The fungus is larger than a hen's egg, and is of a soft spongy texture; it takes its origin from the middle and posterior lobes of the left hemisphere, and is apparently composed of broken down cerebral matter. The lateral ventricles contain a quantity of serum.
Operation performed before admission.	15th day.	24th day.	No dissection.
1st day, none.	4th day.	20th day.	No dissection.
3d day, no change.	17th day.	95th day.	Dismissed cured.
5th day after admission, no benefit.	Ascertained on dissection.	5th day after admission.	*Dissection.*—A portion of brain protrudes through the dura mater; effusion of lymph. There are several cavities containing pus, in the left hemisphere of brain; the right side is apparently healthy.
1st day.	5th day.	5th day.	*Dissection.*—The tumour is the size of a pigeon's egg, and arises from the superior and posterior part of the middle lobe of left hemisphere; the dura mater and left hemisphere are coated with purulent matter. There is some turbid serum in the ventricles and at the base of the brain.
1st day.	2d day.	6th day.	No dissection recorded.
2d day after admission, pulse rose from 60 to 116.	8th day after admission.	8th day after admission.	*Dissection.*—The protruded portion of brain, and the part beneath, is soft and pultaceous. Vessels are greatly congested. Several ounces of bloody serum in both ventricles.
12th day, the difficulty of articulating disappeared.	16th day.	20th day.	*Dissection.*—There is a large quantity of pus beneath the pericranium, around the site of fracture, and the corresponding surface of the dura mater is of a dark colour. The substance protruded consists of broken down cerebral substance, pus, and blood; and the brain beneath is softened to the depth of three inches; there is a quantity of pus on the surface of the pia mater, covering the left hemisphere. Both lungs contain numerous purulent deposits.
2d day.	8th day.	14th day.	*Dissection.*—The tumour is about the size of a filbert, of a red colour, and rough on the surface. It consists of cerebral substance, and the brain beneath is softened to the depth of two inches. The ventricles are distended with serum, and the vessels of the brain and membranes are congested.

The term *hernia cerebri*, has been given to protrusions and growths from the head essentially different in their characters. It is not our intention to enter into any discussion regarding their nature, or the propriety of including them all under this one general designation; we simply premise, that in the following paper the application of the term is strictly limited to *protrusions of cerebral substance;* and that we believe all the cases contained in the table belong to this class.

The cause of these protrusions is still matter of dispute. All are agreed, that to admit of their occurrence, there must be a removal of a portion of bone, and the destruction of a portion of the membranes, occurring (except in some rare instances,)[1] after accident or operation: but still the question presents itself,—why should the brain protrude in some instances, and not in others?

The following causes have been assigned for the occurrence of the protrusions:

1st, The normal movement of the brain, from the action of the heart and lungs, in their unexcited state;

2d, The same movement increased by local congestion, inflammation, and general inflammatory fever;

3d, Disorganization of the brain, and fluids, the products of inflammation.

That the first of these causes may be sufficient to force a portion of brain beyond its usual level, when the bone and membranes have been extensively removed or destroyed, can hardly be doubted, such instances probably afford examples of the simplest form of hernia cerebri, that in which the protruded portions are most likely to be found in a natural condition, and which are likely to terminate favourably,—such we fear are not common.

If the normal movements of the brain be admitted to be capable of causing a protrusion of part of its substance, it must be also granted, that the influence of these movements is greatly increased by local congestion, inflammation, or inflammatory fever. Any one who has watched the state of the fontanelles in the heads of healthy children, and compared their flaccid pulseless appearance when there is no excitement or fever, with their prominent, tense, and pulsating condition when fever and cerebral congestion are present, must have been convinced, that a cerebral protrusion might have very readily occurred in the latter condition, if the opposing membranes and scalp were removed. It seems very obvious that a similar condition of the organ would cause, or increase the protrusion after accidents or operations. In practice, however, general congestion and augmented force of circulation and respiration are less frequently conjoined with cerebral protrusion than might be anticipated. The pulse and respiration, in the cases before us, were unusually quiescent, considering the severity of the injuries and operations. The quickest pulse was 124, and the lowest 60, and, in the majority, it was numerically very little beyond the standard of health; and, in point of strength, the pulsations were rather characterized by a diminished, than by an increased power; one is noted as "small," another "small and weak." In like manner, the breathing was "natural and slow," not quick and hurried.

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[1] Med. Chirurg. Transac. vol. viii. page 45. See a case by Mr Pearson.

The *third* cause assigned is inflammation and disorganization of the substance of the brain. Morbid anatomy shows such an almost constant connection between inflammation and disorganization of the brain, and hernial protrusions, as to lead to the conclusion, that they are in some way associated as cause and effect. All the dissections bear ample evidence that one or both of these lesions had existed: —and it is not improbable that those cases, which presented the bone or membranes entire, which died of sudden coma, and exhibited extensive softening of the brain, would have become the subjects of hernial protrusions, and have lived longer, had there been an opening.

These causes, singly or combined, we consider quite sufficient to account for hernia cerebri, but it must also be admitted that the products of inflammation, the serum and pus, which were found on dissection in almost every case, must have, to a certain extent, contributed to the result. In some cases, also, there is probably some hæmorrhage from the capillary vessels, which washes away, and carries before it, the softened, disorganized cerebral matter.

It has been doubted if these causes be sufficient to account for all cases of hernia cerebri, because in some instances, a vacant space is found after death between the surface of the remaining brain and the skull-cap; of this, the following case is a very good example.

CASE 74. W.P., aged 15. To-day (*29th November*,) about 3 o'clock in the afternoon, he received a kick from a horse, on the frontal bone, immediately above the right eye, by which a large depression of the cranium was produced. He was stunned for a little time, but soon recovered his senses and recollection. He was bled to about ℥x; previous to the bleeding, the pulse was 120, but fell after it to about 90. Some time afterwards, he vomited slightly; his pupils were dilated, and he had two or three convulsive fits. He was brought into the Infirmary about 9 o'clock in the evening. When the injury was examined, it was found that the bone was depressed to a considerable extent, broken into many fragments, and that some of the substance of the brain was lying on the surface. A piece of the adjacent bone was removed by the trephine, which allowed the fragments to be taken away. The dura mater, and the other two membranes were lacerated to the extent of an inch and a half, and spiculæ of bone were driven into the substance of the brain.

30th. He has had two stools; he complained of some pain in the head this morning; and the pulse was sharp. After losing ℥xii of blood, he was seized with a fit, but immediately recovered, and has since been composed, and slept well.

3 P.M. After losing ℥ix of blood, he became faintish and vomited, since which he has continued quiet, and has had no pain of head. The pulse is 120, and sharp; skin dry, and warm.—*Let him be bled as far as the strength will permit, and let him take every half hour, till the skin become moist, ℥ss of aq. acetat. ammoniæ.*

8 *o'clock* P.M. After losing ℥xii of blood, was seized with convulsions, which, however, soon ceased, but for some time he was delirious. At present he seems very uneasy.—*App. emplast. canth. nuchæ.*

1st December.—The countenance to-day is expressive of health; the skin is moist; the pulse is 124, soft, and easily compressed. Granulations already appear on the surface of the wound, but at one point there is a small projection, apparently cerebral, of about the size of a common bean.

2d December, 10 P.M. The tumour is now the size of a pigeon's egg. It can be handled without the patient complaining of any uneasiness, and was torn away on a level with the cranial bones, without any visible effect being produced on his feelings or functions.

3d December, 10 P.M. There has been little progress in the growth of the tumour since yesterday, and the health continues much as formerly.

From 4th to 21st December. The tumour was found on the 4th to have increased very much in size, and the health was not so good. Disappointed with the effects of shaving off the fungus, the surgeon now began to dig it out considerably lower than the level of the cranium, and, allowing the blood to coagulate, was in hopes, that an organising action might take place between it and the cut surface of the brain, and that granulations would form. The coagulum remained *in situ* for two days, but the fungus increasing, in spite of pressure, it was forced off, the brain below exhibiting no sign of healthy action. The shaving system was again had recourse to (by means of a scalpel), and continued to a very great extent for several days, without the boy appearing to be either benefited or injured by it. Despairing of any success from this practice, it was given up, and very powerful pressure, by means of bandages, employed in its stead. It was found that this pressure could not be steadily continued, for, as the fungus increased in size, symptoms of compression of the brain began to show themselves, which were only removed by taking off the bandages. Caustics were next applied, and the bandages continued, removing them when the symptoms of compression appeared. This plan was continued, without the smallest benefit, till the 20th day from the appearance of the tumour. Towards the evening of that day, the boy, who had hitherto enjoyed the most perfect use of his faculties, became insensible. It was supposed, that this might arise from the pressure of the bandages, but their removal showed the supposition to be incorrect, the symptoms continuing unrelieved. During the night, convulsions came on, and at 8 o'clock A.M. he expired.

Dissection.—Before opening the head, a very great difference was observed betwixt the appearance of the fungus, and that which it exhibited during life. Even to the last moment of the patient's existence, the cerebral matter was found either protruding through the cranial opening, or on a level with it. Now, it had retired completely within the cranium, and the finger, when introduced, did not detect the existence of any such matter. On looking in at the opening, a deep cavity alone was observable. When the skull cap was sawn off, the chief, and most remarkable fact noticed, was, that the greater part of the substance of the right hemisphere was gone, its remaining surface being in a putrid-looking state; the substance of the brain throughout was softer and more pulpy than natural.[1]

It has been objected, we say, that there must be in such cases some other power in operation, besides the causes of protrusion above given, otherwise the brain would have expanded itself laterally, and filled the vacant internal space, before it protruded externally. To us there appears to be no such necessity, seeing that all protrusions have a tendency to project towards a point, rather than to spread themselves indefinitely laterally. Besides, as these protrusions are always more broken down towards their centre, than towards their circumference, the resistance to protrusion outwardly through the opening in the membranes and bone would probably be less, than to either side internally towards portions of the brain still covered by the pia mater and arachnoid.

The cases before us would lead us to believe, that the part of the head injured has some influence in favouring the cerebral protrusion; of the 14 cases, the injury in 7 was situated partly or entirely over the frontal bone; in 6 over the parietals; in 1 over the temporal:—from which facts we might be led to infer, that hernia cerebri much more frequently follows injuries and operations on the superior and anterior part of the head, than on the lateral and posterior regions. It must, however, be recollected, that injuries calling for an operation occur more frequently over the former than the latter regions; thus, of the 43 cases operated upon, and in which no cerebral protrusion took place, the injury was wholly or partly over the parietal bone in 24 cases, over the frontal in 13; over the occipital in 5; and over the temporal in 1. Sir P. Crampton has recorded a case in the *Dublin Medical Journal*, where the protrusion took place through the occipital bone, and Dr Thomson, in his reports, mentions another.

Of the 57 operations, 14, or 1 in 4½ nearly, were followed by protrusion.

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[1] Vide *Glasgow Medical Journal*, vol. iv. p. 341. This case is not inserted in the table; the account of it in the journals of the Infirmary is very meagre.

The *symptoms* may be divided into those which preceded, and those which followed the appearance of the tumour. It does not appear that the first of these, the antecedent symptoms, were particularly severe. A reference to the table will show, that the cases were not of the worst description, and that neither the mental nor physical symptoms were unusually urgent. In farther proof of this we may adduce the following cases:—

CASE 75. M. C. aged 17. *8th July*. Two hours before admission he sustained a compound fracture, with depression of right temporal frontal region; a piece of bone was removed before admission, and two afterwards; was quite sensible immediately after the accident, and is so still; pulse natural.

9th. Slept well; is quite sensible; pulse 120.

13th. Wound sloughing; two pieces of bone removed to-day; "a small sloughy fungus protrudes from under depressed bone, but does not pulsate, nor does it seem to consist of cerebral matter."

10th August. Since the report of the 13th ultimo, there has been no affection of head; and the fungus there mentioned has entirely disappeared, but for the last ten days a much larger fungus has projected from the wound, and is now the size of a hen's egg; when pressed it is felt to pulsate distinctly; no effect produced by inspiration or coughing; it is very firm and vascular; it has been treated by compression; features drawn to right side; pupils are natural; pulse 100.

23d. Three days ago, the fungus had increased to the size of a goose's egg, and the left arm was observed to be palsied; yesterday, the left leg was found in the same state during the afternoon; he had a severe attack of vomiting, by the stress of which cerebral matter was forced out, so as to increase the tumour to three times its original size; he is quite insensible; there is strabismus of left eye; the breathing is quick and noisy. He died; but no report of the dissection is given.

CASE 76. A. D., aged 8. *26th February*. Half an hour ago, he was kicked on the left side of the forehead by a horse; he is sensible; the breathing and the pupils are natural; the pulse is small and weak; there is an oblique wound two inches in length over the left side of the forehead, exposing the fractured and depressed bone; at the inner extremity of the fracture several spiculæ of bone have penetrated the dura mater; the spiculæ sticking in the dura mater were immediately removed by a pair of dressing forceps, and the depressed bone raised by an elevator.—*Injiciat. enema terebinth.*

27th. He was quite sensible last night, and slept well, but since morning he has fallen into a state of stupor; the respiration is laborious; the pupils are dilated; the pulse is 100, rather throbbing; he has vomited several times; there is a protrusion, and some discharge of cerebral substance from the wound.—*Fiat vene-*

sectio ad ℥xii.—Habt. submur. hydrarg., gr.iv; et post horas quatuor repetatur enema.—Dieta tenuis.

28th. His bowels have been freely opened, and he has not vomited since yesterday; he is quite sensible; the breathing is slow, but free from stertor; the pupils are less dilated; the pulse is about 106, soft; the cerebral protrusion is less.—*Vespere repetatur enema.*

1st March. He has had a good night, but since the morning, has become feverish; he is still sensible, but will not answer questions.—*Repetatur venesectio pro re natâ.*

2d. He has been more insensible since last night; the pupils are dilated; the pulse is 165, small, and sharp; there is a copious discharge from the wound, and the cerebral protrusion is sloughing.—*Repetatur enema.—Applicetur cataplasma emolliens.*

3d. He has been occasionally sensible; the pulse is 150, small, and weak; the protrusion is more prominent, and is sloughing.—*Vespere repetatur enema si opus sit; et habeat vini rubri ℥ii in dies.*

4th. He has had several convulsive fits, and is now moribund. He died; but there is no dissection recorded.

Of the second class of symptoms, or those which followed the protrusion,—headach, stupor, paralysis, and convulsions, were the most prominent, as the following cases show.

Case 77. J. C., aged 14. *Nov. 5th.* Twelve days ago a piece of coal fell from a considerable height, and struck him on the head. He is now sensible, but articulates with difficulty; the pupils are dilated, but contractile; the pulse is 84; there is a triangular wound over the right parietal bone, which discharges offensive pus. Two pieces of the parietal bone were removed.—*R. Calomel ℈i, pulv. opii gr.vi, pulv. cinnam. ʒss. M. Divid. in pulv. xii. Sumat i ter in die.*

12th. He is much in the same state as on admission. The mouth is not yet affected; a fungus has protruded from the wound for some days.—*Cont. pulv. 3tiâ q. q. horâ.*

12th. Is, if anything, worse to-day. On separating the scalp from the tumour, and introducing the finger between the tumour and the bone, a small quantity of pus escaped, but no loose bone was felt; the left side of body is paralysed, and has been partially so since admission.

13th. Is more drowsy; a piece of the fungus was removed today, which allowed an escape of purulent matter; pulse quick; mouth unaffected.

15th. Having become much more drowsy yesterday, the fungus was shaved off on a level with the bone, and turpentine applications used; the part removed appeared to consist of broken down cerebral matter; *to-day the tumour is as large as ever;* the pulse greatly quickened, and very feeble. He died. No dissection is recorded.

Case 78. J. F., aged 9. *5th August.* He fell from a height of twenty feet this morning, and has been insensible ever since; the breathing is slow; the pupils are dilated, and there is strabismus of both eyes; the pulse is 76; there is a fracture about the middle part of the right parietal bone, which seems to extend towards the mastoid process, and two small pieces of bone are depressed. An incision was made through the scalp, and the two depressed bones removed by Hey's saw.—*Injiciatur statim enema domesticum.*

6th. He has passed a tolerable night; his bowels have been moved; the pulse is 76.—*Rept. enema.*

7th. He has passed a very restless night, and screamed loudly; pulse 64.—*Sumat statim calomel. gr.iii.*

8th. He appears more intelligent to-day; the pulse is 60; feeble. —*Sumat ol. ricini ℥ss; et rept. post horas duas si opus sit.*

11th. He has become more intelligent since last report; he complains of headach for two days, which has been relieved by leeches; the pulse is 64; the wound looks healthy.

18th. He is doing well, but complains of weakness.

31st. He has been complaining more for two days; and is very feeble; the pulse is 124.—*Hab. in dies vini Hispaniæ ℥i.*

1st Sept. He had an attack of vomiting last night, but remained pretty well until 10 o'clock this morning, when he was attacked with convulsions, became quite insensible, the pupils dilated and fixed, the pulse 150.—*Injiciat. statim enema fœtidum. App. nuchæ emplast. vesicator.*

2d. He is quite intelligent to-day, and took his breakfast with relish.—*Intermitt. vin.*

9th. He has been doing well since last report; but he had a rigor last night; there is a copious discharge from the wound; the pulse is 104.

11th. He had another rigor last night, and complains much to-day; pulse 96; the wound was enlarged with the scalpel.

20th. There is no change of the symptoms; the exposed bone is exfoliating, and a small portion of the outer table was removed to-day.

21st. The remaining portion of the exposed bone is removed, and the wound looks healthy.

30th. He has vomited frequently for two days, and has refused food.—*Injiciat. enema terebinth.—App. vesicator. region. ventriculi.*

2d October. Vomiting has ceased; the pulse is 72.

4th. Vomiting has returned yesterday; the wound looks well; the pulse is 80.

28th. Since last report, the patient's only complaints have been feebleness and occasional attacks of vomiting; he complains of headach to-day, and looks listless.—*Hab. vini Hispaniæ ℥ii.*

31st. He had a fit yesterday, which lasted five minutes, during which the whole body became rigid, and he screamed loudly; he is comparatively easy to-day; the bowels are open.

Nov. 6th. Since last report his bowels have been kept open by calomel, but he has vomited frequently to-day; he is in a state bordering on coma; the pupils are dilated and fixed; the pulse 60, and feeble.—*Sumat submur. hydrarg. gr.iii 3tiâ q. q. horâ.*

8th. He is again quite collected, and gives a distinct answer, but complains of headach; the pulse is 96.—*Cont. vinum.*

11*th.* He continues much in the same state; the pulse is 112; the wound feels spongy, as if a fungus was about to protrude.

19*th.* He continues much in the same state, but the evacuations are now passed in bed; the fungus is distinctly seen proceeding from the wound.

25*th.* He continues very feeble; the fungus has increased; the pulse is 84, and is feeble.

31*st.* He is now insensible; the fungus has increased in size; it seems to be composed of cerebral substance, and bleeds freely.

Dec. 4th. The fungus is much larger, and has commenced to slough; he is quite comatose.

13*th.* He is considerably improved, spoke a little to-day, and took food; a part of the fungus has sloughed.

Jan. 1st. The fungus has again increased in size, and his jaws are completely locked; the pupils are much dilated; pulse 100, and very feeble.

9th. He continued much in the same state as at last report, till ten o'clock this morning, when he expired.

Dissection.—The tumour, which was the size of a hen's egg before death, has entirely disappeared; the edges of the bone are smooth and rounded by absorption, and the dura matter surrounds the neck of the tumour; the substance which formed the fungus is found to be softened cerebral substance, and the brain underneath it is soft and spongy. In the interior of the middle and posterior lobes of the right hemisphere there is found a large abscess, containing ℥ix of well-digested greenish pus; the walls of this abscess are well-defined, and very thin at some parts; there is no communication between the right lateral ventricle and this cavity.

Morbid appearances.—It is to be regretted that in several of the cases, dissection was either not permitted or not recorded, and that in others the details are not so ample as could be desired. The most prominent appearances, were vascular turgescence, effusion of serum and pus, and softening of the cerebral substance, as may be seen by a perusal of the following cases.

CASE 79. D. M'M. aged 40. *4th November.* He was knocked down and stunned by a block of iron falling on his head, but was soon able to walk with assistance, and he is now quite sensible; the breathing and the pupils are natural, and the pulse 75; there is a wound three inches in length over the course of the sagittal suture, through which the bone is felt fractured, detached, and irregularly depressed; the wound was enlarged, and a piece three inches in length, and one in breadth removed; a spicula had penetrated into the substance of the brain.

5th. Had 18 ounces of blood taken last night; he has little headach; pulse is 80; bowels open.—*Sumat st. sulph. magnes.* ʒi. *Fiat v. s. pro re natâ.*

6th. He had a rigor last night after having risen to stool, but he has passed a good night; the headach is slight; the pulse is 88. —*Quiescat.*

8th. He has been drowsy since the 6th; the right side is paralyzed; and the articulation is indistinct; the pulse is 70; the bowels are open.—*Tempor. admov. hirud. xxiv.*

10*th.* A blister was applied to the neck last night; the breathing is laborious; the pulse is 84; a fungus protrudes at the upper part of the wound.—*Tempor. admov. hirud. x.—Sumat vespere, calomelanos, pulv. antim. et potas. āā. gr. vi.*

17*th.* The symptoms have become more aggravated since last report, and the tumour has increased in size; last night it bled freely, and several ounces were lost before the hæmorrhage could be checked. He died about midnight.

Dissection.—The fungus is rather larger than a hen's egg; of a dirty brown colour, and of a soft spungy consistence, and occupies the whole opening in the cranium; the margins of the opening are rough; the dura mater to the extent of two inches round the fungus is coated with pus, and its margin which surrounds the neck of the tumour is thickened; the fungus is observed to arise from the middle and posterior lobe of the left hemisphere, and is about three inches in circumference, and is apparently composed of broken down cerebral substance; the lateral ventricles contain a quantity of serum.

CASE 81. J. D. aged 40. *April* 18*th.* He was struck on the left side of the head with a stone an hour ago; he is quite sensible, and free from headach; the power of the right side is somewhat diminished; there is a wound two inches in length over the upper part of the left parietal bone, which exposes comminution and depression of part of the skull; the wound was enlarged, and the depressed portions removed by means of an elevator and forceps.

19*th.* He is perfectly sensible; the pulse is 100, and full; the paralysis of the right arm is complete; 16 ounces of blood was taken from the arm during the day.—*Vespere rept. v. s. si opus sit.*

20*th.* The headach becoming very intense last night, he was bled to 24 ounces, after which he became delirious; he is now quite collected.—*Tempor. admov. hirud. xx;—v. s. si opus sit.*

21*st.* He lost the power of articulating after the leeching yesterday, and was delirious during the night; the pupils are natural; pulse is 100; and is easily compressed.—*Sumat vespere pulv. opii gr.ii, pulv. antim., calom., āā. gr.v. Misce.*

23*d.* There has been stupor since morning; the pupils are contracted; the pulse 90; the wound is sloughy, and an incipient fungus is observed; the right leg is paralyzed.—*Tempor. admov. hirud. xii.*—He died.

Dissection.—The wound has a sloughy appearance, and its centre is occupied by a brownish coloured fungous mass; the inner surface of the dura mater, and the left hemisphere of the brain are coated with purulent matter; the dura mater was deficient below the wound, and the fungus protruded through the opening; the fungus is found to arise from the superior and posterior part of the middle lobe, it is nearly the size of a pigeon's egg, and of a dark brown colour, which gradually merges into grey as it passes into the cerebral substance; the cerebral substance surrounding the tumour presents numerous bloody points; there is a quantity of turbid serum in the ventricles, and at the base of the brain.

Hernia cerebri is unquestionably a very formidable complication. Of the 14 cases we have found recorded, 12 died, and 2 recovered; being more than 5 deaths to 1 recovery:—and this we fear is not an unusually large mortality. Of 3 cases detailed by Mr Stanley,[1] 2 died, and 1 recovered. Mr Hill[2] relates 3 cases, all of which recovered; and Mr Mallet 4, which were also successful. Notwithstanding these instances of success, we feel convinced that correct and fair statistics will show that our mortality is not above the average.

There is some ground for the belief, that hernia cerebri occurs more frequently in children and young persons, than in patients more advanced in life. Of the 13 cases, 10 were below 30, (8 the youngest, and 27 the eldest), 3 were 40, or above it, (40 the youngest, and 46 the eldest). Mr Stanley's cases were of the respective ages of 11, 12, and 13. Mr Hill's were 6, 11, and a *young* woman, whose age is not given. Sir P. Crampton's patient was 23. Will the greater activity of cerebral circulation in early life account for this, and will young be at once a predisposing and exciting cause of the protrusion?

Treatment.—This may be divided into the local and general.

The indications of local treatment appear to us to be, the promotion of the effusion of organizable matter in and around the wound, so that by condensing the protruded brain, and contracting the hernial opening, further escape may be prevented, and that that which has escaped, if small, may be gradually returned by the natural efforts of the injured parts themselves, or if large, may be made to sphacelate and fall off. In other words, we are inclined to trust very much to nature, aided, but not interfered with, by surgical means. These means we think are,—

1*st*, Support, or moderate pressure. The grand cause of protrusion is, the loss of a portion of the skull and membranes, and the natural support of the contained brain being removed, it seems a very natural indication to restore that support and pressure by artificial but simple means. These should consist of a light compress, adhesive plaster, and bandage; and even these very simple means appear to us to be restricted to the very earliest stage of protrusion. When the tumour has attained a great size, pressure is injurious, and in such cases, we are inclined to trust to sloughing and granulation, with mild or astringent, but light dressings.

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[1] Med. Chirurg. Trans., vol. viii.

[2] Hill's Cases in Surgery.

2d, The dressings should be stimulating, as resinous ointment; or gently astringent, as cold water, nitric acid lotion,[1] liquor calcis,[2] blackwash, or such like.

The two following cases illustrate these recommendations.

CASE 82. C. M'C., aged 21, a labourer, admitted 23d June.—Five days ago, he received a blow on the head with an iron boring rod, weighing five pounds, which fell from a considerable height. He was knocked down, and felt stunned for half an hour after the injury, and has complained of constant dull pain in the head ever since it occurred. Situated over the left parietal bone, is a wound one and a half inch in length, through which a deep and somewhat conical depression can be felt, traversed by two irregular fissures. A piece of bone, the size of a shilling, is denuded and of a pale colour; there is a yellowish discharge from the wound, and part of the cellular substance has sloughed. He is perfectly sensible; the breathing and pupils are natural; pulse 60, small; skin cool.

26th. After two consultations, it was resolved to remove the depressed bone. This was accomplished by means of the trephine, two days ago, and nineteen fragments of different sizes,—the largest half an inch square, extracted; the dura mater was apparently entire. He walked out of the theatre and has not had a bad symptom since; all functions natural; pulse 60; low diet.

27th. Doing well in every respect; headach all but gone; pupils natural; pulse 84.

29th. Continues to improve; pulse 60, regular; sore healthy: bowels opened by castor-oil.

July 10th. The bottom of wound has sloughed; and a stimulating ointment has in consequence been applied. To-day a globular body the size of a Spanish nut, is seen projecting from the bottom of wound, with a distinct pulsating movement; there is very little headach, and no other symptom of cerebral affection. A bandage and compress have been applied over the tumour.

Aug. 6th. The tumour gradually enlarged to the size of a walnut, when the surface became covered with granulations, which united with those springing from the surrounding parts; it has gradually subsided and is no longer visible. The bottom of the wound has now the appearance of a healthy granulating sore, but still exhibits a distinct pulsating movement: there is no headach, and the functions of the brain are quite natural.

Sept. 26. The wound is quite healed; the general health is excellent. Dismissed cured.

CASE 83. H. M'K., aged 46, admitted 17th July.—He had been struck by a fragment of a stone on the forehead shortly before admission; the integuments were lacerated—the bone fractured transversely, and the lower part considerably depressed. The fractured edges were shattered, and some portions of cerebral substance had escaped, along with a large quantity of blood. He was drowsy, but could with some difficulty be roused and appeared perfectly sensible and collected; the breathing was easy; pulse 60; no vomiting. In the course of the day the drowsiness increased to such an extent as to resemble complete coma;—the trephine and Hey's saw were therefore resorted to, and the fractured and depressed bone removed;—the dura mater was observed to be lacerated.

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[1] Mr Mallet.

[2] Sir A. Cooper.

18th. (Day after admission.) He has been less drowsy since the operation; the breathing is calm; pulse 60, feeble; bowels open; a portion of the brain protrudes through the rent in the dura mater.

20th. Was bled to ℥xii last night, in consequence of the pulse rising. Feels easy to-day.

21st. The pulse has been somewhat more feeble since yesterday: the protrusion of brain does not increase rapidly, though it makes some progress.

31st. The tumour is now nearly three inches in length, and one and a half inch in breadth, occupying the whole opening in the cranium. The remaining portion of the dura mater has now sloughed: some loose bone is felt around the opening: he seems drowsy, but sleeps calmly, and answers questions distinctly.

Aug. 8th. Three or four days ago the portion of the brain which protruded through the lacerated dura mater began to slough, and several portions have now separated; the remaining portion is very small. The part of the tumour which was originally covered with dura mater, has no appearance of sloughing, and is smooth, tense, and of a reddish colour;—it is rather more flattened than formerly, and appears considerably smaller from the progress which the surrounding granulations have made up towards its base. The granulations from the scalp are continuous with those on the surface of the tumour. He has had a small quantity of wine for some days, which he relishes.—*A bandage to be applied pretty firmly, with resinous dressings, and the parts to be washed with yeast.*

After the date of this report, the patient continued to gain strength, and the granulations extended rapidly.—Dismissed cured.

The general indications of treatment are, to avoid all causes of excitement of the respiration and circulation, and to prevent or subdue inflammatory action. The utmost quietude of body and mind should be strictly enforced. The head should be elevated, placed in an easy posture, and kept cool. Venesection, and cupping, digitalis, and tartar emetic may be required, in the early stage; counter-irritation, and calomel with opium in the later. When cough exists, active measures must be taken to check it.

Mr Mallet states that in his four cases " a foreign body was found acting as a source of irritation," to which he ascribes the occurrence of the protrusion. His opinion has probability in its favour, and it adds another to the reasons adduced in our last communication for the effectual performance of the operation of trephine, whenever instruments are resorted to.

The only other local treatment which it seems necessary to notice, is the removal of the protruded part with the knife. While we are aware that there are many recorded cases, by Hill, Stanley, Mallet, &c., in which this has been successfully done, it is not a practice which appears to have been beneficial in the Glasgow Infirmary, we have not found it useful in practice, and it is consequently one which we are not inclined to advocate. The following cases bear on this point.

CASE 84. *1st August.* D. M'C., aged 26, was struck on the head last night, and was knocked down, and has complained of pain ever since. He is now perfectly sensible; the breathing and pupils are natural; pulse 80; there is a compound fracture, and depression on right side of head; several pieces of bone were immediately removed by the elevator and forceps, and the dura mater found intact.—*Cold lotions.*

3d. Acute pain in head, for which he was bled from the arm.

14th. Has required to be bled several times for headach since the 3d; the dura mater appears sloughy.

21st. Is drowsy, but sensible; paralysis of left side; pulse 60.

30th. Paralysis less marked; an incipient fungus projects from the wound.

September 3d. Is sensible; fungus has continued to increase, and was to-day removed in a line with the integuments.

15th. The fungus has continued rapidly to increase, and was again shaved off to-day, and a semicircular detached bone removed; the fungus is evidently composed of cerebral substance. He is quite collected.

19th. The fungus has again increased very rapidly, and bled freely last night; he is now in a state of stupor; the pupil of right eye is enormously dilated. He expired at 10 A.M.

Dissection.—Dura mater at site of wound in a sloughy state; cerebral convolutions very vascular; right hemisphere disorganised, soft, pulpy, and of a deep red colour; corpus callosum involved in the disease; some serum in ventricles.

CASE 85. —— Fergusson, aged 14. This afternoon, (5th April 1841), while at the bottom of a coal-pit, a piece of coal fell from an ascending basket, and struck him on the head, inflicting a triangular wound at the anterior superior part of the right parietal bone. He was insensible for three quarters of an hour, but is now sensible; he has lost a great deal of blood; the left is affected with involuntary convulsive movements; the external senses are entire. On examining the head, there is a space somewhat circular, and nearly equal to half a crown, where the bone is felt fractured, and deeply depressed and mixed with pieces of coal. The shattered and depressed portions were raised and removed with the elevator and forceps, when the membranes and brain were found to be wounded; the latter seemed to rise into the wound, but none of it was discharged; a few minutes after the operation, the pulse was firm at 96.—*Vespere ft. v.s.—Sol. tart. antim.*

6th. He fainted after losing ℥v of blood; some brain is discharging from the wound; the convulsive motions of left arm continue; the pulse is 90.—*Habt. statim sulph. magnesiæ ℥ss.—Cont. sol. tart. antim.*

7th. Pulse fuller; discharge of brain continues.—*Fiat v.s.*

8th. Has had much pain in the head during the night, for which he was bled; the left arm is nearly paralytic; pulse 90, full.—*Rept. v.s.—Habeat hyd. c. cretâ gr.iii, sextâ quâque horâ.*

9th. Has had a good night, but the pain is returning; hernia cerebri increased.

13*th.* Has continued nearly in the same state since the 9th; bowels open; pulse 96, fuller.—*App. hirud. viii vespere.*

10*th.* Had a slight rigor yesterday; the protrusion of brain increases; pulse 104, firmer.—*Vespere ft. v.s. ad ℥v.*

17*th.* Has had a pretty good night; bowels are open; pulse from 84 to 104; the tumour is much increased; it was shaved off with a knife, and the surface touched with nitrate of silver, and a bandage applied. The portion removed was larger than a walnut, and consisted below of softened brain, containing numerous bloody points, and above of condensed granulations.—*Emplast. vesicator. nuchæ.*

18*th.* Intense pain in back of neck and back; blister has not been applied; the pulse is 90, and excited; hernia increases.—*Emplast. vesicator. nuchæ. Hirud. xii capiti.*

19*th.* Hernia increased very much, and bled freely during night; excessively restless; articulation perfect; died at 10 P.M.

Dissection.—Hernial protrusion as large as a turkey's egg, highly vascular, shreddy, and soft. The opening in the bone is an inch long, by three-quarters wide, and the opening through the membranes is considerably larger. Around the wound in the membranes there is some clotted blood and coagulable lymph, imbedded in which are numerous particles of coal; the arachnoid and pia mater were congested, and of a deep red colour, and over both the hemispheres there were marks of congestion, and effusion of lymph on the surface of the brain. The right lobe, opposite the injury in the bone and membranes, presented an opening into which the finger could easily be introduced, and which extended directly downwards into the posterior part of the right ventricle, laying it open. The surrounding brain, to an extent in diameter of little less than three inches, was reduced to a soft pultaceous mass, throughout vascular, intermixed at several points with clots of blood, interspersed with numerous small portions of coal. It was this portion of brain, nearly equally disorganised externally and internally, which formed the hernial protrusion. The inferior surfaces of the posterior lobes of both sides, and of the cerebellum, were smeared over with sero-purulent matter, and an ounce or two of the same matter was left on the base of the skull; after these organs had been removed, a few drachms of milky fluid were found in the ventricles: the brain was generally soft.

See also cases 74 and 78.

In all these cases, the use of the knife appears to have been injurious. In case 85 (a private one,) it decidedly was so. It appears to us that it should never be resorted to while the tumour is of moderate size, slow in its progress, or when granulations are springing up on and around it. Under such circumstances it is sure to do harm, by diminishing the resistance of the external parts, and allowing the brain to escape more freely than before. On the other hand, it may be advisable, when the protrusion is very large, soft, and devoid of granulations. The removal of the mass under such circumstances, may be useful, by allowing pressure and astringents to be more efficiently applied.

Before concluding, we may be allowed to notice an opinion expressed by Mr Stanley in reference to this subject. He says " understanding then that the necessary means of cure consists in getting rid of the brain already protruded, the surgeon has to consider whether he will at once remove it, that he may then make such efficient pressure as will prevent further protrusion; or, whether he will await the event of the natural processes, which it is likely will at some period be commenced, for getting rid of the protruded brain, and restoration of the injured parts."[1] With all deference, we cannot concur in this statement. We do not consider it by any means "necessary to get rid of the brain already protruded." One of our cases is a proof of the contrary. There was no removal with the knife, and no sloughing, yet the protrusion entirely disappeared. The same occurred in a case related by Mr Crawford, R.N.[2] Pressure had been used, and to it Mr Crawford ascribes the disappearance of the hernia. This we think very problematical, and we are disposed to agree so far with Mr Stanley, when he says that "pressure is unequal to accomplish the reduction of the protrusion." But what pressure may not be able to accomplish, the powers of nature may, and do occasionally effect, and on them as we have already stated, aided, but not interrupted by the surgeon, we would place our chief reliance in the treatment of this fatal disease.

In bringing this series of statistical papers to a conclusion, we think it proper to state that the greatest care has been taken to ensure accuracy, and that no cases have been taken into consideration except the details were complete. During the inquiry some

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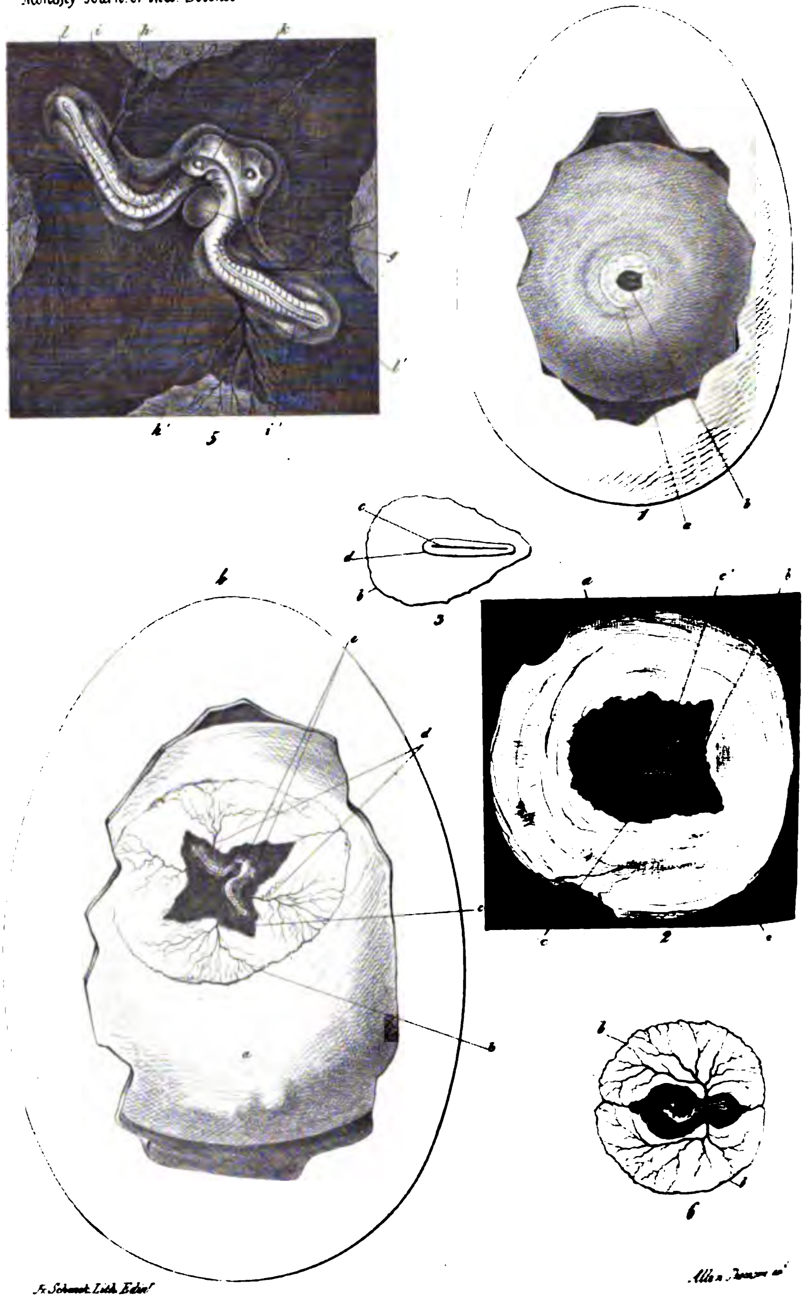
[1] Med.-Chirurg. Trans. vol. viii., page 86.

[2] Edinburgh Medical and Surgical Journal, vol. xii. page 23.

Monthly Journ. of Med. Science Vol. for 1844. P 450.



Fr. Schenck Lith. Edinʳ Allen Thomson ad.

EARLY DOUBLE EMBRYOES OF BIRDS.

additional cases have been found, which slightly changes the enumeration of the cases given in the table accompanying our first communication.

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ARTICLE V.—*Remarks upon the Early Condition and Probable Origin of Double Monsters.* *By* ALLEN THOMSON, M.D., F.R.S.E., *and Professor of the Institutes of Medicine in the University of Edinburgh.* (With a plate.)

It is unnecessary for me in this place, to adduce proofs of the importance of a knowledge of the laws of fœtal development to the Teratologist, for it is now almost universally admitted, that every successive step which has been made, and of late years with astonishing rapidity and success, in the investigation of the formative process of the embryo, has tended to remove some part of the obscurity which belongs to the history of malformation. An extended and careful observation of these malformations themselves has shown that, notwithstanding their vast number, the same or similar forms so frequently return, that they readily admit of classification; and a comparison of these forms with those assumed by the same parts of the embryo, at different early stages of its formation and development, have pointed out so many obvious resemblances between them, as to demonstrate, that, without a constant reference to the history of fœtal development, the exact nature or anatomical structure of malformations cannot be fully understood, and consequently their different forms cannot be so accurately distinguished, as to admit of their being classified upon scientific principles. Accordingly, it will be found that, in the more important recent works upon teratology, although anatomical structure and external form are made, as in fact they ought to be, the basis of division into classes, orders, and genera, yet the place assigned to a considerable number of malformations in the divisions thus established is regulated also in some measure by the theoretical views entertained of the origin and nature of the malformation, founded upon known laws of embryology.[1] But even in the best of these classifications, it appears to me, that sufficient weight has not been given to theoretical considerations of the nature of malformations derived from embryology; and that, by a due attention to these views, some improvement may be suggested, at least in the section comprehending malformation by excess.[2] The following is a synopsis of the classes and orders of one of the most recent classifications; that, viz. of Bischoff founded in part upon that of Gurlt.

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[1] As in the following works, viz., Gurlt, *Lehrbuch der Pathol. Anat. der Haussäugethiere.* Berlin 1831–32. Isid. Geoffroy St Hilaire, *Hist. gén. et part. des Anomalies de l'Organisation.* Paris, 1832–36; and Otto, *Sexcentorum Monstrorum Descrip. Anat.* Breslaw, 1841.

[2] See an interesting paper on the relation of the history of fœtal development to that of malformations, by Bischoff of Heidelberg, in the article Entwickelungsgeschichte of Wagner's *Handwörterbuch der Physiologie.* Brunswick, 1843.

Class I.—Malformations of Defect.

Order 1. Defect strictly so called.
2. Small size.
3. Union by Fusion of parts naturally double.
4. Atresia, or Imperforation.
5. Cleft, or pervious condition of parts naturally united.

Class II.—Malformation of Redundance.

Order 1. Single head and trunk with redundant parts or organs.
2. Double malformation by union of two individuals,—as follows:
    A. Double above and single below.
    B. Single above and double below.
    C. Double both above and below.
3. Double malformation by implantation, or fœtus in fœtu.
4. Triple malformations.

Class III.—Abnormal structure and relations of parts without either obvious defect, or redundance of parts.

Order 1. Change of place.
2. Change of form.
3. Abnormal origin and distribution of arteries and veins.
4. Hermaphrodism.

In this classification, which may be considered to be as much in accordance with the present state of knowledge, both of teratology and of embryology, as any other of the present time, the first order of the second class, or that of malformations by redundance, comprehends all those instances in which an increase of the number of parts or organs (generally not very important) takes place, as in the well-known examples of supernumerary fingers, toes, ribs, teeth, muscles, &c.; and the less frequent instances of increased number of vertebræ, bones of the head, double tongue, gullet, cœcum, spleen, pancreas, mammæ, ureters, &c. Along with the foregoing are included some others, as it appears to me, with less propriety. To some of these, as the supernumerary testicle, penis, and clitoris, Bischoff has with good reason affixed a mark of doubt, for their existence seems by no means well ascertained. Double uterus and double kidneys might also perhaps have found a more appropriate place under the 5th order in the first class, or in a separate one; and it is greatly to be doubted whether the heart (also included as affording examples of duplex condition, *i. e.*, two hearts, not merely divided ventricles), or indeed any organ of equal importance, has ever been found double in a body in which no other signs of the union of the parts of two individuals occurred. For similar reasons, it would be proper also to exclude from the order of simple redundance of parts, the cases of superadded entire extremities, whether attached more directly to a part of the spinal column, or merely to the parietes of the thorax or abdomen. The propriety of this was seen by Isidore Geoffroy St Hilaire, who places this kind of redundancy of parts under the head of double monsters.

A careful revision, indeed, of the various cases of redundant extremities, appears to me to show that there is not in them, as in most other malformations, of which the cases are equally numerous, a series of gradations from the least to the greatest degree of the abnormal condition, or from the mere superaddition of the joint of a finger to that of a whole extremity; but, on the contrary, that there is a sudden and wide hiatus between the form of polydactyle malformation consisting in the presence of supernumerary digits, with at most, and that only rarely, the metacarpal or metatarsal bones accompanying them, and the superaddition of the whole extremity. It is also to be observed, that in general, if indeed not invariably, scapular and pelvic bones, more or less perfect, support the entire redundant extremity; and that in all those instances in which the redundant parts are connected with the vertebral column, that union is sufficiently intimate to admit of the supposition, that a portion of a spinal column may have originally existed in connection with the redundant extremities.

Those rarer cases of attachment of the redundant extremities to the thoracic or abdominal parietes, I should be inclined to regard as more nearly allied to the parasitical double monsters, in which portions of a body, sometimes considerable, but generally very imperfectly developed, adhere to some part of an individual nearly naturally formed.

It is important at the same time to observe, that the organs which are usually, if not indeed alone, the seat of an increase in number in single redundant monsters, belong, as Isidore Geoffroy St Hilaire has well pointed out, to a particular class, those, viz., in which the component parts are naturally numerous, and which are observed to be most subject to undergo variations in number in the series of lower animals.

It seems to me, therefore, more consistent with the observed facts, to consider as true double malformations only those instances in which the parts of two cerebro-spinal axes, or of two vertebral columns are present; for I am inclined to think that there is no well authenticated instance upon record of the existence of the double condition of any important organ in which there is not reason to believe, that some degree of duplicity, it may be slight, has also existed in the cerebro-spinal system. In proof of this, I may cite the example of one of the lowest degrees of double malformation of the face, described as occurring in a lamb by Gurlt,[1] in which there existed a double tongue, an approach to a double lower jaw, and a cleft palate as the most obvious malformations. No duplicity of the cerebro-spinal axis was visible externally, but a careful dissection showed internally a commencing double condition of the bones at the base of the skull, an additional pair of corpora quadrigemina, double pineal gland, pituitary body, &c. But for the careful dissection made by Gurlt, this case might have been described, as an example merely of double tongue and jaw.

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[1] Loc. cit. vol. ii., p. 221, plate 25.

In stating my belief that all true double malformations are accompanied by the double state of the cerebro-spinal axis, it will be my object now to show, that all double malformations are consequently of original formation, or date at least from the earliest stages of development.

Notwithstanding, therefore, what has been advanced by Bischoff, it appears to me that it might be an improvement, in the teratological system of arrangement of recent writers, to separate the two divisions usually recognised as composing the class of malformations by redundance; to retain in one class all those malformations which consist in the increased number of unimportant parts, or to leave these malformations as one of the orders in the class of simple anomalies, according to the arrangement of Isid. G. St Hilaire; and to raise the double monsters, strictly so called, to the rank of a distinct class. Under this last class might be brought all those malformations in which the combination of two individuals has appeared to take place; whether consisting in the union, by a limited portion of their bodies, of two individuals both of which are nearly perfect; or in the fusion in different degrees of two incomplete individuals which may be equally or unequally developed; or, lastly, in the smallest degree of double malformation, in which there are no more than traces of an additional cerebro-spinal axis or parts which appear to have been connected with it.

Admitting the validity of the foregoing considerations, the following orders might be enumerated as belonging to the class of double monsters. They correspond nearly with those of Isid. Geoffroy St Hilaire,[1] with the exception of the modification of the orders comprehending the different forms of parasitical monsters, founded

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[1] The following is a tabular view of the arrangement of double monsters, by Isidore Geoffroy St Hilaire.

MONSTRA DUPLICIA.

Order 1.	Monstra duplicia autositaria.	
Tribe 1.	Family 1.	Eusomphalia.
	... 2.	Monomphalia.
Tribe 2.	Family 1.	Sycephalia.
	... 2.	Monocephalia.
Tribe 3.	Family 1.	Sysomia.
	... 2.	Monosomia.
Order 2.	Monstra duplicia parasitaria.	
Tribe 1.	Family 1.	Heterotypia.
	... 2.	Heteralia.
Tribe 2.	Family 1.	Polygnathia.
	... 2.	Polymelia.
Tribe 3.	Family 1.	Endocymia.

partly upon the views above stated, and partly upon the suggestions thrown out by that author himself.

The class of double monsters might thus be made to comprehend the following orders, viz.

ORD. 1. Union of two individuals by the forehead, or vertex of the head; each one having a distinct umbilicus, and being nearly equally developed.

Under the first order might be placed as a sub-order, one form of parasitical monster, viz., that in which an additional head, or some parts of it, are superimposed upon the head of an individual otherwise nearly perfect; the union may be by the vertex, or by the lower jaw or palate.

ORD. 2. Union of two nearly perfect individuals by the posterior extremity of the vertebral column; each one having a double umbilicus; as in the well-known Hungarian girl, Helen and Judith.

ORD. 3. Two distinct heads and vertebral columns, with more or less of visceral union; the umbilicus generally single.

ORD. 4. Janus-like union, that is, two individuals so united at the head and chest, that lateral symmetrical parietes, viz., those of the face, neck, and chest, are formed by the combination of equal and similar parts belonging to each individual.

ORD. 5. Single above and double below, in various degrees; the existing parts of the two individuals nearly equally developed.

Under this order there might be brought as two sub-orders, the following.

SUB-ORD. 1. Additional extremities, whether superior or inferior; and whether attached to the spine, as most commonly happens, or to the thoracic or abdominal parietes.

SUB-ORD. 2. That form of parasitical malformation, in which the parts of a small and undeveloped body hang from the anterior part of the nearly perfect individual, as in the well-known Chinese case.

ORD. 6. Double above and single below, in various degrees, the parts of the two individuals nearly equally developed; and as a sub-order under this may be placed, those very rare cases of parasitical malformations in which a head, or little more, has been found attached to the anterior part of the body of the perfect individual.

In the present imperfect state of our knowledge of the nature of monsters by inclusion, it is necessary still to arrange them under a separate order, viz.

ORD. 7. Malformation by inclusion, or, as it has been called, fœtus in fœtu, comprehending two sets of cases; in one of which the tumour containing the imperfectly developed parts of a second individual is attached near to the sacrum of the perfect one; in the other—more rare—it is situated within its abdominal cavity.

It seems not improbable that future investigations may point out the existence of transition forms, between the truly inclosed additional body and the parasitical malformations, which I have thought myself justified in bringing under those orders of double monstrosity, to which their different kinds respectively appear to belong.

Before proceeding to describe the early condition of double monsters, and attempting to deduce from a few observations made with regard to them by myself and others, the most probable theory of their origin, it may be proper to offer some remarks upon the nature of the explanation afforded by a knowledge of embryology of the origin and nature of malformations in general.

Almost all teratologists are now agreed in referring a considerable number of malformations by defect to the occurrence of an interruption or *arrest*, as it has been termed, of some of the steps of natural fœtal development,—a theory of which the first suggestion may be due to Harvey,[1] but which can only be said to have been distinctly stated as a general principle by Haller[2] and C. F. Wolff.[3] The last Meckel,[4] however, must be regarded as the chief founder of this view, for it is to his labours more than to those of any other single observer, that it owes the scientific shape it has in modern times assumed, and its general adoption by physiologists.

No one who professes any acquaintance either with embryology or with the various forms of malformation can have failed to be struck with the remarkable resemblance between some of these malformations and the transitory conditions presented by the embryo or some of its parts in different stages of its development: but a comparison of these forms soon convinces the accurate observer that the explanation by the theory of arrested development is not applicable to all, but chiefly to a particular class of known malformations. The various fissures or divisions of organs which occur as malformations are among the best examples which can be adduced in favour of the theory of arrested development. The cleft palate and hare lip, hypospadia, divided scrotum, open processus vaginalis or urachus, ductus venosus, and arteriosus, communication between the ventricles or auricles of the heart, separate condition externally of the ventricles, uterus bicornis, and the greater number of the varieties in the distribution and connection of the larger arteries and veins near the heart, are a few of the many examples of malformation which may be quoted as admitting of such an explanation.

But, on the other hand, many malformations occurring in single monsters, and all the forms of double malformation, receive little or no direct elucidation from the theory now under consideration.

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[1] See his 69th Exercitation concerning generation, in a part of which the occurrence of the deformity of hare lip is referred to the slow closure or union of the lips in the fœtus.

[2] De Monstris in Oper. Min. tom. iii. p. 135.

[3] De Ortu Monstrorum in Nov. Comment. Acad. Petrop, tom. xvii., 1773.

[4] Handbuch der Pathol. Anat. Handbuch der Menschl. Anat. and in his admirable Commentary De Duplicitate Montrosa, 1815.

During a part of the last century much controversy took place among scientific men with regard to the question, whether malformations ought to be considered as dependent on an original tendency, or morbid condition of the germ, or whether they proceeded from injury or disease supervening during development,—a controversy which may be said to have terminated towards the commencement of the present century, in too exclusive a rejection of all accidental causes of malformation. For, not to mention those irregular disfigurements of the embryo which appear manifestly to have their origin in a pathological condition of the parts induced by known physical causes, recent accurate investigations seem to prove, that even some forms of malformations, which have very generally been regarded as attributable to arrested development, may be the result of mechanical injury or accidental causes operating during development. I allude particularly to the interesting observations by Dr Montgomery of Dublin and Professor Simpson[1] of this University, upon the destruction of the limbs of the fœtus in utero, at different stages of its growth, in consequence of their constriction by bands or rings of adhesive matter or lymph, effused by a process apparently of an inflammatory nature.

Dr Simpson's observations, detailed in the paper referred to, and more especially others of a similar kind, which are yet unpublished, and which he has communicated to me, appear farther to show, that after the amputation or destruction of limbs of the embryo by the constriction of adhesive bands, the sessile and imperfect fingers and toes, so frequently observed in such cases, are not, as might naturally be supposed, the shrunken remains of the original parts, but are in many instances very probably the result of a process of regeneration, which, in conformity with the law of similarity, existing between the form and structure of the organs in early conditions of the embryo, and those of the lower kinds of animals, may be supposed to occur the more readily, the earlier the period at which the destruction has taken place. Should Dr Simpson's view prove to be founded in fact, it will, as he has acutely remarked, considerably increase the difficulty of determining, how much of malformation is to be attributed to original, and how much to accidental or secondary causes of variation.

Many malformations of the head and spine are with much probability attributable to the occurrence of hydrocephalus or hydrorachitis, at an early period of fœtal life, and the extent to which such malformations of the head and upper part of the body may proceed from this cause, or from mechanical violence, has been satisfactorily proved by the observations of Tiedemann, Geoffroy St Hilaire, and Professor Simpson. For an account of the evidence upon this subject, I refer the reader more especially to an interesting paper by the last of these observers, in a recent volume of the

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[1] Dr Montgomery's papers are contained in the 1st and 2d, Dr Simpson's in the 10th Volumes of the *Dublin Journal of Medical Science*.

Edinburgh Medical and Surgical Journal, (No. 140) containing some remarks upon the extent to which hernia may be caused in the fœtus by the occurrence of inflammatory adhesion between parts of the embryo and the membranes. It is there shown that, besides the better known forms of hernia, great displacement of the abdominal and pelvic viscera may proceed from the same cause; total ectroversion of the encephalic and thoracic organs, atrophy of the lateral half of the body, and various other mutilations.

Attempts were made some years ago by Geoff. St Hilaire to corroborate the mechanical or accidental theory of the origin of malformations, of which he was long one of the most strenuous supporters, by an appeal to actual experiment: but not, it must be allowed, with very great success.[1]

By placing eggs during incubation in unnatural positions, as upon either of their ends instead of on the side, or by covering different parts of the shell with wax or varnish, impervious to air, Geoffroy St Hilaire found that he could, in a manner at will, cause disturbance to the process of development; that adhesions took place between various parts of the membranes, and that not unfrequently the mode of development of the embryo was considerably affected. In 1833 and 1834, I made several series of experiments of the same kind with those now mentioned, and with a similar result; and Isid. Geoffroy St Hilaire[2] has also repeated his father's experiments, and described in his work upon monsters the unnatural appearances which resulted. But these appearances, though presenting considerable similarity to some of the more remarkable mutilations and eviscerations which are observed in malformation, cannot be said to afford examples of more than a very limited kind of abnormal development, and are very different from those constant and now well-known forms of malformation which are generally ascribed to arrest of development. It cannot be denied, however, that the experiments of the Geoffroy St Hilaires, and my own, illustrate in some measure the extent to which some mutilations of the embryo may owe their origin to mechanical causes acting during development.

An interesting variation of the experiments on the artificial production of monstrosity in the fowl's egg, has been described by Barkow and Valentin, though not as it appears as yet with important results. The latter of these physiologists, having opened the egg at an early period of incubation, and having inflicted injuries on the embryo or its membranes, contrived to continue the incubation for some days, and to observe the result.[3] One of Valentin's observations is particularly worthy of notice, viz., that in which an injury inflicted on the caudal extremity of the embryo on the second day, was found on the fifth to have produced the rudiments of a double pelvis, and four inferior extremities.

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[1] See Mém. du Museum, tom. xiii. The Philos. Anatomique, and other works of this author.

[2] Hist. des Anomalies, &c., tom. iii. p. 506.

[3] I quote from Bischoff's Article already referred to, and from Valentin's Repertorium, 2d vol. p. 168, not having seen the second volume of Barkow's Work, Monst. Anim. duplic. per Anat. Indag. 1836.

It may be difficult at present to determine to what extent future observations, similar to those now adverted to, may prove malformations to be under the influence of mechanical causes; but it must be admitted with Bischoff, that the prospect of thus arriving at an explanation of a large number of such malformations as are already known, is by no means encouraging. The constancy with which certain forms return, and the remarkable symmetry they very generally present, deprives this theory of all its probability, in reference, at least, to by far the greater number of them, and points to an original disposition of the ovum or germ as the cause of their production,—a view which the hereditary transmission of the disposition to the occurrence of malformations renders, in many instances, still more certain. What that original cause, or what the unnatural condition of the germ, may be, which determines to the occurrence of malformation, we are as yet entirely ignorant. The circumstance that hereditary descent of the tendency to malformation may take place from the side of the male, as well as from that of the female parent, shows that the commencement of the disturbance of the formative process in the ovum, dates, in a certain number of instances, only from the period of fecundation; and with the minute knowledge which we now possess of the structure and changes of the ovum, previous to, and after that act, it would be rash to affirm, that the investigation of the first origin of some malformations, or to use other words, the observation of the earliest abnormal changes which accompany them, is altogether beyond our reach.

Illustrative observations of the condition of simple monsters, at a very early period of development, are not, so far as I am aware, upon record; but some remarkable examples of double monstrosity, observed by myself and others, in birds, at a very early period of development, supply, with regard to double malformations, this defect, and contribute to give some notion of the light which may ultimately be thrown upon the history of malformations, by a sufficiently extended observation of their early conditions.

In the course of a long series of experiments on incubation, carried on at various intervals, I have been so fortunate as to meet with two instances of very early double malformation in the bird; one of which, if I mistake not, is the earliest monster that has ever been recorded. One of the specimens now referred to, viz., that found in the egg of a goose, which had been incubated five days,[1] was observed by me in the year 1830; I subsequently became acquainted with the account of two similar observations recorded, the one by C. F. Wolff,[1] and the other by Von Baer.[2] My second observation was made in an egg of the common fowl, which had been incubated about sixteen or eighteen hours, in the year 1840; since which period I observe, from a statement contained in Bischoff's article, already referred to,[3] published in 1843, that Reichert has also observed another instance of the same period as Von Baer's, but the description of which, at the time mentioned, had not yet been published.

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[1] A period which, from the slower progress of incubation in the goose's egg, may correspond to the middle of the third day's incubation in that of the fowl.

The figures No. 1 and 2, 4 and 5, in the plate, indicate so clearly the appearances presented by the two specimens of double monstrosity, which have come under my observation, that a very short description of them will be sufficient in this place. The figures No. 3 and 6 have been introduced, in order that the reader may compare the natural disposition of the parts, represented in them at corresponding periods, with that in the figures representing the double malformations; Fig. 3 being intended to represent the appearance of a single embryo, corresponding to the double one in fig. 2. Fig. 6 to compare with fig. 4.

In both of these specimens there was only one yolk, and one germinal membrane. In the more advanced specimen, that of the goose, as seen in fig. 4, the yolk had increased in size, and the germinal membrane had extended over a considerable portion of its surface. The sinus terminalis of the vascular area was common to the two embryoes.

In this specimen, as occurred also in the one described by Von Baer, the two embryoes lay in the centre of a transparent area, which presented a crucial shape, as if from the coalescence of two of the areas which usually enclose the embryo.

The heads and brains of the two embryoes were not united, as was the case in Von Baer's and in Reichert's specimens, but only crossed one another, each one being, as far as I could ascertain, complete. Behind the place of apposition, the dorsal and abdominal portions of the spinal column separated by a sudden bend from one another, the greater portion of the vertebral column and adjacent parts of each lying flat in the germinal membrane. In this part of each embryo, the visceral plates were apparent, but the intestine was not yet inclosed. Here also the rudiments of both anterior and posterior extremities were distinct in each embryo.

In Von Baer's case, the heart was double, or rather there was one for each embryo; but in the one I now describe, and this also appears to have been the case in that noticed by Reichert, the heart was single, common to the two embryoes, and situated in the angle of union between them. Each embryo possessed its own pair of omphalo-mesenteric arteries and veins which ramified over the vascular area. The sinus terminalis of this area was single, and its veins leading towards the heart likewise appeared to be so; but I am unable to speak with certainty on this point, as the embryoes had been dead for some time, and the circulation had ceased before I examined the egg:—a circumstance which must be my apology for not giving a more particular account of the blood-vessels.

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[1] Double monster of the fowl's egg incubated six days.—*Nov. Comment. Acad. Petrop.*, tom. xiv.

[2] Double monster of the fowl's egg at the beginning of the third day.—*Meckel's Archiv.*, vol. xii. p. 576. 1827.

[3] Wagner's Handwörterbuch, vol. i. p. 912. 1843.

The adjacent heads of the embryoes were partially covered by the commencing cephalic fold of a common amnios: and at the caudal extremity of each embryo, the caudal fold of the amnios had begun to rise from the serous layer of the germinal membrane.

In the second and earlier specimen of double monster obtained from the egg of the common fowl, the germinal area (cicatricula) had undergone nearly the usual degree of enlargement, and presented no unnatural appearance. My attention was first directed particularly to this specimen by the peculiar shape of the transparent area, which seemed partially cleft on one side, (see fig. 1 and 2). The two embryoes had not advanced beyond the first stage of fœtal formation, indicated by the presence of what has been called the primitive trace. In this specimen, each primitive trace does not differ materially from that of the single germ, except in the slight curve which both have undergone at the place where the two approach one another. The serous and mucous layers of the germinal membrane were not yet distinctly separated from one another. Each primitive trace consisted of a thickening, formed by the accumulation of small cells in the upper surface of that membrane, which soon would have become the serous layer. The central part of each primitive trace, represented in the figure as a line, appeared to be as in the natural bird's ovum, and as Bischoff has well described it in the ovum of the dog, merely the bottom of a shallow groove, bounded on either side by the thickened ridges of the germinal membrane which form the dorsal laminæ, and which, after the deposit of the rudiments of the nervous substance on a part of their surface, subsequently unite over the groove, and thus form the first condition of the cerebro-spinal axis and its canal.

This specimen presents then an example of a double embryo, at the earliest stage of development at which it can be supposed visible.

In the first of the specimens now described, it will be observed that the direction of the bodies of both embryos, as compared with the axis of the egg, (fig. 4,) is the opposite of that, which (as in fig. 6,) almost invariably occurs in the early periods of incubation.

In the second or earlier specimen (as in fig. 1 and 2,) the direction is represented as being natural; but it is proper to state, that I am not quite certain that it was so, from my not having observed distinctly the double embryoes, till after their removal along with the germinal membrane from the surface of the yolk. I still preserve both of these specimens.

The farther remarks which may be suggested by these observations, with reference to the theory of the origin of double monsters, are unavoidably postponed.

DESCRIPTION OF THE PLATE.

Fig. 1. A fowl's egg opened after having been incubated sixteen or eighteen hours, containing a double primitive trace.

a. The germinal area of the cicatricula.

b. The transparent area, containing the two primitive traces or embryoes.

Fig. 2. The germinal membrane of this egg removed and magnified.

a and *b* as before.

c c'. Primitive grooves of the double embryonic trace, on each side of both of which are seen the laminæ dorsales.

Fig. 3. Outline upon the same scale of the appearance usually presented by the transparent area, and primitive trace of a single embryo.

b and *c* as before.

d. Indication of the laminæ dorsales.

Fig. 4. A goose's egg opened after five days' incubation, containing a double embryo.

a. Germinal membrane extending over the surface of the yolk.

b. Terminal sinus of the vascular area.

c. Transparent area of a crucial form.

d. Omphalo-mesenteric blood-vessels.

e. The embryoes.

Fig. 5. The same embryoes removed and magnified four diameters, showing the manner in which the one head is overlaid by the other.

g. The common heart lying between them.

h. The rudiments of the superior; *i,* of the inferior extremities.

k. The common cephalic fold of the amnios; *l l',* the caudal folds.

Fig. 6. Outline showing the natural position and appearance of a single embryo of the goose at nearly the same stage of advancement. The letters as in fig. 4.

In figs. 4 and 5, letters are affixed only to some of the parts, in order to prevent overcrowding the figures.

(To be concluded in next Number.)

ARTICLE VI.—*Case of Hypertrophy of the Heart, and Disease of the Tricuspid Valves. By* W. ORD MACKENZIE, M.D. Edin., *Assistant-Surgeon, King's Dragoon Guards.*

The subject of this case, Joseph Port, was a native of Kent, 22 years of age, strongly and heavily built, with a short neck for his height, which was six feet four inches. His occupations, until January last, had been those of a labourer and farm servant. In that month he was enlisted as a private soldier in the 1st (or King's) Dragoon Guards; upon which he had to go through the usual routine of "setting-up drills," "extension motions," and grooming his horse three times a-day, with lessons in the riding school.

He always had a heavy stupid look, and seemed to be of decidedly weak mind. Like most recruits, with whom the diet, habits, and exercise of a soldier's life very frequently disagree at first, he was (in February last) in the regimental hospital, for ten days, from a slight febrile attack; and once or twice afterwards he suffered from diarrhœa.

On the 12th April, he came to the hospital, saying that he had felt very ill all the previous day.

He was now admitted:—the countenance was anxious, and the breathing seemed oppressed, with a feeling of weight in the cardiac region. Pulse 84, small, and irregular.

On 13th, he felt on the whole easier, after the bowels had been freely moved.

14*th*, 11 A.M. Violent palpitation and pain in chest; heart's action and sound perceptible over the whole thorax; pulse hardly perceptible at the wrist; great anxiety, and considerable collapse; vomiting; sound of heart through the stethescope *loud and rushing*, without any distinct interval between its contractions.—*Fiat. v. s. ad ℥xx.—Sumat statim sp. ammon. arom., etheris nitr. āā ʒi, ex aquæ menth. pip. ℥i; et repet. post hor. ii.*

6 P.M. There is little alteration in the symptoms. Only ℥*xiv* blood could be obtained from the arm.

15*th*, 5 A.M. The palpitation and dyspnœa continue, with constant vomiting of every thing taken into the stomach; the pulse can hardly be counted; there is general tenderness over the whole chest and abdomen.—*Repet. haustus ut heri.—Applic. cucurb. cruentes pectori.*

8 A.M. Tongue dry; thirst; skin cold and clammy; pupils dilated; vomiting.—*St. acet. morphiæ gr.¾.—Utat. haust. effervescentibus.*

15*th*, 11 A.M. Somewhat easier.

3 P.M. Vomiting recommenced; pulse as before.

10 P.M. Excessive tenderness over abdomen.—*Applic. vesic. abdom.*

16*th*, 10 P.M. Somewhat of more natural warmth; general tenderness much as last night; pulse very indistinct at wrist, 198 at carotid; bowels freely opened; vomiting.—*R. acet. morphiæ gr.¾; sp. eth. nitr. ʒi, aquæ ℥i. Misce. Stat. sumendus.—R. submur. hyd. gr. ii, opii gr.ss. Misce. St. statim et pil. tal. i, qq. 3tiâ horâ.*

30*th*. No alteration.

10 P.M. *Cont. pil. ut mane, et rep. haust.*

17*th*, *mane*. Slept for a short time, but symptoms much as before; pulse of carotids 198.—*Cont. pil. cal. et opii; et haust. effervesc.*

3 P.M. Ditto.

10 P.M. Vomited a small quantity of dark clotted blood; dyspnœa urgent.—*Cont. pil.—St. tr. digitalis gtt. x, 3tiâ quâque horâ.*

18*th*, *mane*. Slept little or none; stertorous breathing; a good deal of cough, with expectoration of some blood; vomiting less; pulse 140, small, counted at the wrist; anxiety of countenance.—*Cont. pil. cal. et opii;—et tinct. digit. ter hodie.*

3 P.M. Mouth not in the least affected by the quantity of mercury taken.

9 P.M. Feels very weak; pulse 140.—*Cont. pil.—Omit. tr. digit. Habeat. vini rubri* ℥*ii.*

19*th*, *mane.* A decided change has taken place for the worse. The vomiting has ceased, and the palpitation is much less, but the colour is more livid, and the pupils are more dilated; pulse 100 at carotid, hardly to be counted at the wrist.—*Habeat vini rubri* ℥ii. —*Sumat haust. ætheris sulph.* ʒ*ii ex aquæ* ℥*i.*

11 A.M. Sinking rapidly.

Noon. Expired.

Sectio Cadaveris was performed by me, 22 hours after death, in the presence of Dr Lewis, surgeon of the regiment, in whose wards the patient had been treated, and where we had both daily been in attendance.

General appearance.—Face and neck of a dark purple colour; resonance on percussion of left, but great dullness on percussion of right side.

Thorax.—On removing sternum, &c., the diaphragm seemed to have been pushed far up into the thorax by the liver. The heart appeared nearly in the centre of chest, very slightly inclining to the left side.

Right lung adherent throughout, and somewhat hepatized.

Left lung healthy throughout.

Pericardium contained nearly ℥vi straw-coloured serum; heart immensely large and flabby-looking, and containing a large quantity of dark clotted and fluid blood; when emptied, it weighed upwards of 1¾ lbs. nearly 2 lbs.

The right auricle was larger than an ordinary-sized left ventricle, with very thin walls, and was distended with clotted blood. The tricuspid valves and natural orifice between it and the right ventricle, were quite obliterated, and I passed three fingers together easily through the opening. The venæ cavæ were distended with blood.

The left auricle and ventricle, aorta, and valves were all healthy, with the exception of the general hypertrophy already mentioned.

Abdomen.—The liver was hard, of a yellowish pale colour, and weighed 5¾ lbs. The hepatic vessels were much distended.

No examination (which is to be regretted)was made of the brain, in consequence of the solicitation of the deceased's friends who belonged to the neighbourhood.

This case is offered for publication without any remarks, except that the hypertrophy was evidently of some standing, and only brought into activity by the unusual exertions to which the patient had been subjected. I would also add, that the preternatural opening between the right auricle and ventricle had no callous margin, but was soft and thin at the edges.

CANTERBURY, 12th May 1844.

PART SECOND.

REVIEWS.

Das Empyem und seine Heilung auf Medizinischem und Operativem wege nach eigener Beobachtung dargestellt. Von Dr Albert Krause. 8vo, pp. 208. Danzig: 1844.

(*Empyema; and its Cure, Medical and Surgical: The result of original observations. By* Dr Albert Krause, *Physician to the Royal Lying-in Institution at Danzig.*)

This work supplies a plain and distinct summary of what is known on this important subject; and is especially interesting, as containing the result of the author's extensive experience and investigations respecting the nature of many important cases which have come under his review.

The following is the plan which he adopts in discussing the subject. He first considers the symptoms, physical, functional, and constitutional: he then gives the anatomical characters, both in simple and complicated cases; treats of the progress and terminations of the disease, its duration, causes, and diagnosis; its physiological characters, and prognosis; and finally, the therapeutics, including the treatment of pleurisy and empyema.

We have not, in our examination of the work, remarked any thing particularly novel; and shall therefore content ourselves by making a few extracts, which may prove interesting.

Under the anatomical department, he gives some details regarding the nature of the effused fluid, which he divides into three species, the purulent, sero-purulent, and sanguineous. It is difficult, he says, to state with accuracy the numerical proportions of these three varieties; but throwing together single cases, collected by other authors, along with those observed by himself, he finds the first to be of much the most frequent occurrence, and also the least dangerous, whilst, on the other hand, the sero-sanguineous exhibits the most unfavourable results; thus, in 162 cases, the effusion was purulent in 100, and the cures were 50; sero-purulent in 41, the cures being 18; and sero-sanguineous in 20, with cures 2. In that part of the work devoted to the causes, we have another table showing the relative proportion of its occurrence on both sides of the chest, and also the relative proportion in both sexes, and the periods of life, a summary of which we subjoin. Of 137 cases, 96 were men, 18 women, and 23 children. In both sexes the disease occurred much more frequently in the young. Of the 96 men, 51 had not attained the age of 30. Of the 18 women 10 were under the same age. The greatest number of cures occurred in the young. Of the 51 young men, 25 were cured, and of the 10 young women, 5. But the most favourable result of all occurred among children; of the 23 children, 16 were cured. Out of the 137 patients, 81 were affected in the left side, and 56 in the right. Of the 54 cures, on the other hand, 30 were in individuals affected in the left side, and 24 in those affected in the right.

In the interesting paper of Mr MacDonnel, which appeared in our last Number, it will have been observed by many of our readers, that the able author states, that enlargement of the liver very often accompanies empyema, not only when it is seated in the right side, but also when it occurs in the left cavity of the chest. This effect he ascribes to a "congestion or engorgement of the liver analogous to what takes place in cases of morbus cordis, and diseases of the lungs, attended with imperfect aeration of the blood." He also remarks, "that it has been mentioned by many writers, in their accounts of the appearances noticed at the autopsies of cases of empyema, though unaware of its connection with the subject." In the work before us, Dr Krause remarks, that disease of the liver is but a rare attendant upon empyema, as he has only witnessed it in two of the numerous cases he has seen; in the one it was prodigiously enlarged, and studded over with tubercles; in the other case, hydatids were found in the viscus. On looking over Dr Krause's cases, however, we find, that though in many he makes no mention of the state of the liver at all, merely concluding with the general remark, that the abdominal organs were healthy; yet, in three in which he does notice its condition, we find that out of 14 cases where the effusion was in the left side, in 4 it is stated to have been congested, in 2 much congested, and in 3 large and congested; of the remaining 5 it is said to have been hard in 2 cases, large and hard in 1, small and hard in 1, and softened in 1. In those in which the effusion occurred in the right side, out of 6 cases, it was large and congested in 2, much congested in 1, large but bloodless in 1, small in 1, and sound in 1.

Bright's disease of the kidneys Dr Krause found to be a frequent attendant of the complaint, and the immediate cause of death in several instances.

In regard to the diagnosis of the disease, he remarks, that those acquainted with auscultation may *overlook* the disease at its origin, but that they can never *mistake* it. Nevertheless, there are two diseases with which it may be confounded; in the acute state, with pleuro-pneumony, and in the chronic, with encephaloid disease of the lung, more especially should any portion of the diseased mass protrude, and point externally. He has only met with one case of the latter description, the details of which we subjoin.

"Justin Nadolski, aged 40, of a slender make, was admitted into hospital on the 27th February. Up till this time, she had always enjoyed good health, had never suffered from chest complaint; and was now seized with pneumonia of the right side, which ran its usual course. At the end of four weeks, the patient was, by her own urgent desire, dismissed, although she had still some difficulty of breathing, with purulent sputa, and there was still dullness on percussion at the base of the right side, and a want of respiratory murmur. She continued to improve at home, the cough disappeared, and she gained strength. At the end of four weeks, difficulty of breathing again occurred, the expectoration returned, she became hoarse, and complained of pain during respiration. She was again admitted on the 27th May. There was now considerable emaciation, and pretty smart fever. The respiration was hurried, and the right side a little enlarged. Under the right arm pit, but somewhat anterior, there was a firm tumour, which rested on the ribs, had a natural colour, and was very slightly painful. A vein about the size of a quill spread over it, running down from the arm-pit. The patient had first remarked it fourteen days previously. The glands in the axilla were free from swelling; respiration was heard at the summit and base of the lung, but was wholly absent at the middle portion; percussion was dull over the whole right side, and normal only under the clavicle; the expectoration was considerable, of a dirty green, with a penetrating odour. The state of the patient continued much the same for some days, she lay continually on her back, and slept little during the night. The tumour continued to increase in size, became livid, and fluctuation was felt: it was opened by means of a bistoury. No pus, however, appeared, but a bloody coloured serum, and the incision was immediately filled with a grumous homogeneous mass; there was considerable hæmorrhage from the wound, but this was controlled by cold applications; the strength continued to sink, and she died on the 6th June.

" *Sectio.*—When the skin was dissected off the tumour, an encephaloid mass of the size of the fist was remarked; it lay upon the third and fourth ribs, and was in part covered by the pectoralis major and serratus magnus. It could not be separated from the ribs, as it protruded through the intercostal spaces, and had its root within the thorax. On the sternum being removed, a large mass was perceived filling almost the entire of the right side of the chest. After being separated from its attachments to the parietes, it was removed; on an incision being made into the lung, the middle portion of it was found to be completely supplanted by an encephaloid mass, which had the consistence as well as appearance of brain, and was traversed here and there by fasciculæ of vessels. The apex of the lung for about the breadth of a hand was in good condition, but compressed. Several small tumours, varying in size from a nut to that of a hen's egg, were situated in the lower lobes; some rested on the ribs, and on removing them, the former were found to be deprived of their periosteum, but not carious; the cellular texture of the bones was sound. There were no traces of similar tumours in any of the other cavities. The left lung was somewhat œdematous, but otherwise healthy, as were also the heart and liver. The kidneys and intestines showed nothing anormal. The glands of the chest were removed along with the tumour, and could not be found. Those of the neck and opposite side were quite unchanged." Pp. 112, 114.

The means of diagnosis in cases of this kind, (and Dr Krause gives nothing new on the subject), were so fully detailed in our last by Mr MacDonnell, that we feel it unnecessary to enter anew upon the subject.

The two following cases we subjoin; the former is interesting, as exhibiting an unusual outlet, whereby the matter escaped from the chest; the latter, as showing a rare communication between the intestines and chest, through the diaphragm, with the introduction of fecal matter into the thorax.

"1. I was called to see a boy aged 8, emaciated to the last degree, and apparently sinking fast. The short breathing, and the nature of the expectoration, led me to suspect that he was labouring under phthisis. On examining his chest, I could discover no difference either in the circumference or the movements of the parietes. His parents informed me that he had been confined to bed for eight weeks, but that previously he had been healthy. They also called my attention to a swelling which had only appeared within the last few days; it was situated under Poupart's ligament, had all the appearance of a lumbar abscess, and on examination fluctuation was felt. I opened it, and there was evacuated at least a pound of good pus. For several days there was a considerable discharge, after which the boy died.

"On dissection, I found to my great astonishment the left cavity of the chest filled with pus. The pericardium was directly under the sternum. After removing the pus, the left lung was discovered close to the posterior mediastinum, and its apex firmly adhering. On being removed from its attachments, and the substance of the lung cut through longitudinally, a large vomica was perceived, round which were tubercles in various stages. There were also tubercles in the right lung. The surface of the heart showed traces of recent inflammation; it was healthy in all its cavities, and of the natural size. In the duodenum, as also in the colon, there were a few small detached ulcers, and the mesenteric glands were filled with tubercular matter.

"Upon examining the abscess in the groin, I discovered a sinus of about the size of a quill, which was found to extend upwards from the abscess along the left side of the lumbar vertebræ, and to pass through a small opening in the diaphragm, and terminate in the cavity of the chest. The purulent contents of the latter could readily be pressed along this canal.

"2. Ferdinand Ludwig, aged 14, at the commencement of 1835 was seized with severe pain in the region of the stomach, accompanied with fever. He recovered slowly after six weeks of suffering, and remarked on leaving his bed, a swelling of the size of an apple in the right hypochondrium. Some time afterwards, he was seized with dropsical symptoms, from which he was soon relieved. In April 1836, he was attacked by fever, which was prevailing at the time. During his convalescence, dropsical symptoms again appeared, and he died on the 12th May.

"*Sectio.*—The right lung adhered to the sternum and ribs. On separating the old adhesions, the lung was discovered pushed upwards, and there was found between it and the diaphragm a cavity of the size of the fist. Its upper wall was formed by the base of the lower lobe of the lung; its external side extended from the seventh to the eleventh rib. This cavity was lined with a rough dark brown membrane, and partly filled with a yellowish fluid having a fecal smell. About the middle part of the inferior wall of the abscess the diaphragm was perforated, and this perforation, on examination with the finger, was discovered to lead into two separate pieces of intestine. The lower lobe of the right lung was somewhat compressed, gorged with blood, but permeable to air. There was some clear serum both in the left pleura and pericardium. There was also some serum in the abdomen, and the omentum adhered to its parietes. The colon presented a most extraordinary appearance. The ascending colon was so exceedingly contracted, that its identity could scarcely be recognised. At the same time, from its connection with the processus vermiformis, it could not possibly be mistaken; it adhered to the gall-bladder, close under the diaphragm, and communicated with the chest by an opening through the diaphragm. The transverse colon passed from this point at a right angle, and its canal also communicated with the chest through the same medium. The two portions of the colon projected through the opening in the diaphragm, with a crescentic-like fold. The gut had its natural appearance, felt somewhat thickened, and its folds were hypertrophied.

> "This adhesion of the ascending colon to the diaphragm is very remarkable, and still more so, the perforation which thus allowed the feces to escape into the chest. The lung was pressed up by the exudation, tied down by firm adhesions, and so covered with a thick pseudo-membrane, that it was in a manner rendered insensible to the irritating effects of the fecal matter."

In regard to Dr Krause's treatment of empyema, we have not observed any thing either new or important. In the first stage he uses antiphlogistic remedies, followed by diuretics and the use of iodine internally and externally, from which he says he has observed the best effects. When an operation becomes necessary, Dr Krause is decidedly of opinion that an early period of the disease is not the best, but that it is much more likely to prove beneficial after the tendency to inflammation is somewhat diminished. We are certainly surprised with this statement; and at all events feel disposed to associate it with the remarks of Dr Hamilton Roe, in his paper on Paracentesis Thoracis, read at the Royal Medico-Chirurgical Society on the 23d of April last. "Twenty-four cases of the operation had occurred to himself, and from the results obtained it appears, that the operation is commonly successful when employed at an early stage of either empyema or inflammatory hydrothorax, and the common cause of failure is to be found in the late period at which it is alone regarded as admissible."

Lehrbuch des allgemeinen Krankheitslehre. Von DR CARL HEINRICH SCHULTZ, *Erster Theil.* 8vo, pp. 431. Berlin, 1844.
(*A Treatise on General Pathology. By* DR C. H. SCHULTZ, *Professor in ordinary at the University of Berlin, &c.* Part 1st. 8vo, pp. 431. Berlin, 1844.)

This treatise on Pathology, of the eminent Berlin professor, has only within the last few days come to hand, and yet for many and obvious reasons, we wish to claim for it the attention of our readers.

For several, we might almost say for many years, a large share of the attention of original investigators has been directed to the microscophical phenomena which occur in organic life, both vegetable and animal; and the innumerable facts which have been collected in the several departments of anatomy and physiology, have been alike striking and important. Every one whose attention has been turned for a moment in this direction, must at once have perceived that the bearings of these extraordinary revelations upon pathology were numerous, necessary, and most important; and the treatise now before us is one of the earliest systematic contributions to the practical results which every enlightened physician must anxiously have been anticipating. This elaborate treatise upon the most important department of our profession,—upon disease, its causes, symptoms, consequences, and cure,—upon its results in life and death,—is very much based upon the Professor's labours on microscopic anatomy and physiology;[1] and it is no easy matter without an intimate acquaintance with these, to follow his disquisitions on pathology and therapeutics. The narrow space we can allot to such a subject, together with our limited time, quite precludes us from attempting a full analysis of these original investigations and views, and still more any critical disquisition on the several portions of the doctrine. To something of this kind we may possibly revert, but in the mean time, we supply but a slight sketch and epitome of this most curious and valuable work, guarding ourselves, at the same time, from the inference that we are either converts, or advocates of all the author's views.

The foregoing statements will at once explain how Professor Schultz should be so much dissatisfied with the progress which the science of medicine has hitherto made, and the deep and fundamental character of that revolution which, in his apprehension, it is on the eve of undergoing. In allusion to the all-absorbing subject of cytogenesis, he tells us that medicine still retains its original envelopement, the germ still remaining latent and concealed, waiting till it be roused to activity and life.

The medical science of the ancients, according to Dr Schultz, was based and built on their notions concerning the elements of matter, and thus the connexion between the healing art and the physical world was conspicuous and close. In more recent times these physical agencies had very much given place to numerous others of various name and import, in which an erroneous and obscure idea of vitality has played the most conspicuous part. The author's object in this treatise, is to substitute the new triumphs of persevering skill, the new discoveries of life, death, and disease, for these obsolete and inaccurate schemes.

In prosecution of this design, the Professor has recourse chiefly, though not exclusively, to his personal researches, both old and new, some of which prompted him to the particular line of speculation which he has followed, whilst others were suggested during the prosecution of his investigations. He arranges the topics discussed under the following principal heads:—1*st*, He dwells first upon the origin and progress—the vegetation (das vegetiren) of disease, and the analogy between health and disease, and life and decay in the vegetable world. This investigation, as may readily be supposed, has an especial bearing upon the phenomena of disease and death. The comparison also displays marked discrepancies. The growth of plants and trees is distinguished by the fact, that when so far accomplished, much of their substance continues long in a permanent unvarying condition, whilst the other and superadded portions, the new twigs and branches, invariably spring forth wholly fresh and new. The older parts are not afresh organised, nor does any disorganisation occur in them; the life-sap mainly spending its energies upon the newly developed shoots. Plants have thus chiefly an external growth and active organisation, (a rejuvenescence;)[1] whilst animals have in addition, an internal one, quite as conspicuous and important. It is true that we sometimes find in man when labouring under disease, that the internal active organisation, for a longer or shorter time diminishes, or ceases, and there is a strong tendency to disorganisation as well as to organisation. In this case the two processes coalesce, as they sometimes do in the vegetable world. On the other hand, and under other circumstances, the animal frame when labouring under disease, cannot increase by the external growth and organisation so especially manifest in plants; and it is in these circumstances, when its active organisation is confined within itself, that the progress of disorganisation, tending to dissolution and death, occurs. Sometimes indeed attempts at new and external organization are sufficiently marked, of which the exanthemata may be given as an example. At other times, these efforts, instead of being manifested externally, are directed to the internal parts of the frame, and there occasion disease; but still the genuine fresh normal growth and organisation in the human body—*anaphytosis*—never occur. Polypi which increase in a fashion somewhat similar to plants, cannot labour under disease in the same manner as man and animals in the higher link of the series, as the Professor has demonstrated in a distinct work upon *Anaphytosis*.

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[1] 1. System der circulation in seiner Entwickelung durch die Thierreiche und im Menschen. Stuttgard, 1836.

Der Lebensprozess der Pfortader Systeme. Hufeland's Journal der Pract. Heilk. Feb. 1837.

Ueber die gehemmte und die gesteigerte auf lösung der verbrauchten Blutbläschen. Ibid. March 1838.

Ueber die verjürgung des Menschlichen Lebens und die Mittel und wege zu ihrer Kultur. Nach physiologischen Untersuchungen in praktischer anwvendung dargestellt, Berlin, 1842.

To assist the reader in understanding some of these views, we refer him to an excellent exposition of some of them in the *British and Foreign Medical Review*, for July 1843.

The vital phenomena of plants not only elucidate disease by suggesting various analogies respecting external parts, but also by reflecting light upon many of the internal diseases of the frame. These analogies have at all times crossed the path of the physician, though he cared not to regard them; and they naturally affected medical nomenclature. Hence such terms as growth, excrescence, outbreaking, &c. These analogies and comparisons Dr Schultz believes are destined to play a far more important part in the doctrine of pathology than they have heretofore done, and to modify many of our antiquated views. At the same time care must be taken that in availing ourselves of the light thrown upon health and disease by the growth and decay of plants, we do not convert the study of medicine into that of botany. The analogies are truly striking; they are however limited, and often imperfect.

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[1] Although our able contemporary, the *British and Foreign Medical Review*, has chosen to introduce into our own language such words as *rejuvenescence*, *youthifying*, and several others, we prefer avoiding them, not only because we confide in the richness of our mother-tongue, but because they are calculated to mislead. The expression rejuvenescence of man, as of cells, conveys very different ideas to the popular reader and the microscopist. These terms strain the analogy, and are critically inaccurate.

Dr Schultz anticipates that the correct doctrine of the origin and progress, *i. e.* vegetation, (das vegetiren) of disease will afford satisfactory explanations of many of the difficulties which have recently presented themselves regarding parasitic life occurring in man, and the complaints which are thereby superinduced. The early researches upon this subject by Kieser, Meckel, Stark, and Jahn have lately been confirmed by the microscopic observations of Schwann, Gluge, Henle, Müller, &c., upon nucleated cells. These eminent men have brought to light the phenomena of cell life; and some of them regard the majority of anormal growths and tumours, cancer and fungus hœmatodes, for example, as nothing more than the development of cells. Our author takes credit for having demonstrated that except in the dermal tissue of homogamous plants, the development of cells is not isolated and distinct. The essence of these diseased growths, as well as of disease generally, consists not in individual cells, but in the cessation, more or less, of the internal organisation, and the appearance of active disorganisation or depuration, which coincidence leads to the formation of plastic and other kinds of lymph, and the development of new substance, or of growths. This he regards as the true theory of all kinds of hypertrophies, whether they occur in the skin or bones, of fungoid tumours, of cancer, also of all the phenomena of ulceration. Cells, individual or collective, he holds are not necessary for the formation of anormal growths, and they may be absent and wanting as well as present. Cells, he states, never appear to be originally present in such circumstances, but only granules (kugelchen) together with fibres of the simplest organisation; and it is from these sources that the cells arise as secondary formations. Of such processes as these, the vital phenomena in plants afford the most satisfactory explanation; an explanation which morbid anatomy has never supplied. Hence, the botanical explanation is far more satisfactory than the physiological; and hence the debt that is due by pathology to botany.

2*d*, Dr Schultz next directs attention to the comparative characteristics of the ancient and modern systems of physic, and of their relation to our present knowledge. He dwells upon the uses and value of such researches, and shows that in almost forgotten systems we find the sources of our vulgar and prevailing prejudices, as exhibited in the humoral pathology, in solidism, crises, &c.

3*d*, The author's third head refers to the tendency or predisposition to disease which is manifested by the systems of the body severally, as displayed, for example, in the diseased functions of the digestive or circulating systems. This naturally introduces his next subject, namely, the true nature of predispositions to disease throughout the whole body, viewing the individual predispositions in connection with each other, and not omitting the influence of mental phenomena in producing disease. The result of these investigations, when brought to bear upon the prevailing doctrine of the causes of disease, is most important; and will go far to modify, if not to overturn, the prevailing system of etiology.

Dr Schultz is convinced that his views of the doctrine of the predisposing causes of disease comprehend views whose important bearings have hitherto been overlooked in the production of disease. The relative influence of the organising and disorganising processes in the several organs is of the greatest practical importance. This is especially true of the anormal states of the mucous membrane of the intestinal canal, whose disorders have generally been explained by means of the chemical theory of digestion; but in a manner that was alike objectionable and unsatisfactory. Similar remarks apply to the diseased conditions of the blood, and the vascular system. The real conditions of the functions of the system depend primarily upon the healthy condition of the blood, upon its normal organisation, and the integrity of its vital properties. The predisposing causes of disease in the liver likewise, when studied aright, suggest many views quite new and important; and the true uses and bearings of the portal circulation have never hitherto, according to our author, been accurately explained. Once more, the vascular and hepatic systems have close and important relations with the respiratory system, for good and for evil, and the disorders arising from the derangements of these relationships have never yet received satisfactory explanations from the chemical or dynamic theories. Correct views on these points afford an explanation of the relative bearings of the lungs and liver, which is almost the reverse of that which generally prevails at the present time.

Under his next subdivision Dr Schultz gives an account of the chief pathological systems which have attracted attention in the history of the science. He shows the influence they have exerted upon the development of the science, and the bearings they have upon the doctrines which recent discovery is inevitably introducing.

Under the 8th head, we find the author's views regarding the sympathies of the blood; the light these throw upon the production of other forms and manifestations of disease, in various organs; also, regarding sympathies in general, throughout the body, when it is demonstrated that the nervous system is neither the only, nor in fact, the chief agent in the production of these singular phenomena.

And under the 9th, it is shown that the doctrine of the physiology of the blood is completely modified by our acquaintance with the history of the development of the blood vesicles, and the organic constitution of the blood. These in fact are the real sources, and alone convey to us correct conceptions of the vitality of the blood. Some slight discrepancies have appeared in the accounts of these matters published by our author and other observers, but these without difficulty may be made to harmonise. Thus it has been remarked by Henle, that there is not a correspondence between the blood vesicles and lymph globules, and that the largest of the latter have been represented by Schultz himself, as larger than the completely developed blood vesicle. With this statement Dr S. agrees, but he states that he has moreover discovered that the largest lymph globules, before they are surrounded by other vesicles, become thickened, and so pass into the granular (körnige) form, a transformation which Henle has overlooked. But at that time the nuclei of the blood vesicles, and these vesicles themselves are of very different sizes. The primary colourless vesicles, before they become flattened, are nearly double the size of the more advanced and coloured ones; and the nuclei, largest in the primary vesicles, become smaller and smaller till at last they almost disappear in the aged and effête ones. The substance of these latter, after discharging their colouring matter into the blood plasma of the vena porta, entirely deliquesces, and is found in this state in the liver, under appearances which Dr Schultz has particularly described.

The influence which an acquaintance with this renovating process of the blood will produce on the doctrines of pathology is too manifest to require demonstration. The immense importance of the conditions of the blood in reference to disease, has in all ages appeared of such paramount influence, that from the earliest epochs the corruption of this fluid has always been considered one fruitful source of sickness and death. Homer, it will be remembered, endues his gods with a circulating fluid (ichor) superior to that of mortals, which was incorruptible, and the source of their immortality. The blood does suffer, more or less, in all diseases; and the most famous pathological systems have turned upon the estimate they took, and the account they gave of the impurities of the blood. Such views as these, however, in the older systems of pathology, had reference to the predominance of the laws of inorganic bodies, and to changes effected in the chemical constitution of the blood; whilst in the more modern, the origin of disease is ascribed to an undefined and unexplained vitality of the blood, whose effects were never measured nor understood. These two systems decidedly contradicted each other; and no efforts have ever succeeded in reconciling either of them with nature; whilst the indisputable importance of the condition of the blood in disease, which is not denied by the most thorough solidist, shows the absolute necessity of endeavouring to possess ourselves of such physiological views of this vital fluid as shall harmonise with all the phenomena which nature presents. We can never become masters of a satisfactory pathology of the blood, till we are previously possessed of a correct physiology of the flowing stream. Past experience decidedly corroborates this statement. The slightest reflection will show, that pathology has very much been founded upon analogies from physiology, imperfect as that branch of science has been, and had no independent basis of its own,—no superstructure from substantive pathological processes and facts.

Impressed by these considerations, Dr Schultz is peculiarly anxious that the physiology of the blood, as he has explained it, including its renovation and decay, should be carefully studied and reviewed. His expositions differ *toto cœlo*, and in many points are diametrically opposed, to these views. The physiological doctrines of the blood have hitherto been substantially chemical, with some additions derived from undefined notions respecting its vital powers, which only made it more obscure, and conveyed no satisfactory views upon the subject. Its living properties themselves have been ascribed, now to certain chemical agencies, and anon to a vital power more recondite still, which has no intelligible relation with the chemical agencies, which is alike inscrutable and incomprehensible, but which is maintained to be the direct opposite of all the material agencies. But the vital process, and the inherent source of activity which our author demonstrates in blood, healthy and diseased, in his doctrines of the predispositions to disease, its formation and restoration to health, &c. &c., is quite inexplicable by the doctrines of chemistry, or the physiological dynamics now in vogue. Besides, the part which the vital fluid plays in the production and removal of disease, is one of much more importance to pathology, than all the alleged chemical and dynamical agencies. The doctrine of the physiology of the blood here asserted, is based upon the essential difference of the living elemental forms, and upon the several actions and re-actions to which these are subjected. Hence the phenomena, the manifestations, the activity of life. This physiology of the blood rests, moreover, on the organization and disorganization of its constituent parts, leading to all the phenomena of growth and decay. Chemical agencies are not contemned or dismissed, but they are subordinated to the several conditions of life and death; and from this vantage ground an attempt is made to explain the doctrine of the anormal states of the blood. The grand and fundamental error hitherto has been, in ascribing the vital properties to chemical agencies, and inversely, in assigning to mere chemical agencies the wonderful and yet subordinate properties of organic life.

Such, then, is a somewhat hasty, but we believe tolerably accurate outline of the system of pathology proposed by the eminent Berlin Professor. It is marked by boldness, originality, ingenuity, and is executed, so far as we have examined, with a corresponding degree of energy, intelligence, and success. Dr Schultz is thoroughly dissatisfied with the state of science as it is, and aspires to place it upon a more appropriate and stable foundation. The two following paragraphs convey his sentiments on these points.

If we inquire into the cause of the present unsatisfactory state of our science, we shall find it in the total want of any thing like *unity* in the component parts of the system. It comprehends many heterogeneous and discordant principles, which are bound together by no connecting links, and which, accordingly, readily fall asunder. The physician has few, or rather no leading principles, of wide and comprehensive grasp, applicable to the countless varieties of morbid conditions which fall under his notice; but, on the contrary, is furnished with innumerable so-called principles, for the endless varieties of infirmities, whose relief is sought for at his hand. There are those who contend that for almost every sufferer, there should be a subdivision of our science into medicine and surgery. But this would do but little to supply the admitted deficiency, so long as the foregoing criticism is applicable alike to both branches of our art.

Again, a true and natural system of medicine must necessarily consist of an intimate and accurate knowledge of sound and healthy organization. No conceptions foreign to the science must be admitted within its precincts; but such only as are germane and peculiar. We must no more attempt to explain disease physiologically, than to explain healthy action pathologically. We must be as guarded in endeavouring to account for these vital processes, normal and anormal, on chemical and physical principles, as we would be, to account for physical and chemical processes, upon physiological principles. Vital phenomena can be accurately explained by life alone; whilst it is true that the phenomena of dead matter, as in the lifeless corpse, find their appropriate solution in chemistry. What would the astronomer think, if, regarding the starry firmament, we should endeavour to explain the revolution of the heavenly orbs upon physiological principles? What would the chemist say, if, on the same principles, we set ourselves to explain the recondite processes of his laboratory? He would not tolerate us for a moment. It is the physician alone who is now subjected to the domination of chemistry and of physics, and so suffers himself to be overruled in his own domain! And thus it happens that every poor victim of disease must rest satisfied, whilst he is obliged to submit to principles drawn from sciences which are wholly alien to his well-being. In the midst of so many efforts for natural freedom, and for enlightened government, the medical commonwealth still yields the grand object of its care, man's health and happiness, to the random opinions and fancies of its professional votaries. And so must it continue, as long as the laws of inorganic matter are intruded into the domain of health and organic life. Such laws must ever be foreign and extraneous; and can exercise no very direct or important influence upon health and disease. Under these circumstances medicine has no peculiar presiding genius. What passes for such, is rather that of chemistry and natural history—the principles which rule over matter and its properties. These are the principles which too much rule in physic. At a time when every other branch of human knowledge and art is striving to organise itself, on the pattern of the living organism,—when politics, law, and the other sciences are ripening into perfect organisation,—at this time, the grand science of organization itself—physiology and the healing art, is disfigured, disturbed, and disorganised, by the laws of inorganic matter; and this to an extent which almost threatens its very existence. This is nothing more than a sober view of the true state of matters. We are constrained to speak out, as loudly as we can, so that all physicians may hear it, and bestir themselves,—may cherish a high professional patriotism, and attain an elevated and secure vantage ground. These are alone the means whereby we shall arrive at a natural system of medicine, founded as it will be, on correct views of the vital principles of health and disease.

We conclude this notice with a short extract which contains the Professor's views of the nature of tubercle. We believe it to be the true view, differing much from the commonly received one; although it may not be entitled to the claim of novelty, as it has already been propounded in this country. We do not give this extract because it is at all more striking and important than many other passages which might be selected, but because it is short, and so befits our limits. We shall give it nearly literatim and verbatim, so that our author's peculiar style and train of thought may more satisfactorily be apprehended.

"*Tubercle.* Products of disease which appear at first in the shape of diaphanous granules, after a time become opaque, often contain chalky deposits, and get indurated. They may be either encysted or disseminated; they occur generally in the young, and have their seat most frequently in the lungs, (phthisis) but they are also met with in the brain, glands, and bones. They pass through various stages in their development; at first they are semitransparent, then become dull and opaque, at last friable, and of a caseous consistence, and resolve themselves into pus. On chemical analysis they yield a caseous kind of matter, some altered fat, with phosphate, and carbonate of lime. A poor and crude state of the blood, both as regards its formation and depuration, are disposing causes to the formation of tubercle, a condition most frequently met with in scrofulous subjects.

"Gluge, Vogel, and others, have lately endeavoured to prove a peculiar cellular structure in the substance of tubercles, but this does not in reality essentially belong to them: it only occurs in the latter stages, when the tubercle is resolved into pus, and the appearance truly arises from the formation of pus globules. No cells are discovered by the microscope so long as the tubercles remain in the shape of diaphanous granules, but merely a uniform mass, into which, at a later period of the caseous alteration of the tubercle, granular flocculi are deposited; and which under the microscope do not exhibit any regular globular form, (regelmässige kugelform). In those cases where a few stray globules are perceived by means of the microscope in the semi-transparent tubercle, these are nothing else than fat finely disseminated through the tubercular mass. The true nature of tubercle does not,depend upon its having any determined organization, but in a peculiar deposition of matter, consisting of an abnormal formation of albumen and fatty deposition. Its true nature consists not in its organized form, but in its amorphous character. The fat and albumen appear to be a product of abnormal chyle taken into the blood, whose fundamental elements (albumen and fat) are not capable of being transformed into healthy blood vesicles, and healthy blood plasma, and which are therefore separated from the blood as foreign elements, and again deposited in other organs, in the shape of an abnormal lymph. In the formation of tubercle, it is the organizing process that is in fault, as the assimilated matter cannot advance in the course of regular formation. Tubercle accordingly has no tendency to organization. Were it capable of assuming the organic form, it would have done so in the healthy blood, and would have been converted into fibrine and blood vesicles. But as the blood plasma, in tuberculous dispositions, remains stationary as in albumen, and does not advance towards organization and the formation of fibrine, it is thrown out as tuberculous matter. The low vitality in tuberculous matter very much assimilates it to a caseous coagulation, or to a precipitation of globules, which by farther metamorphosis is transformed into a kind of purulent mass, in which are seen globules, larger and smaller, and which have been regarded as regular cells. We should also notice here, that tubercles, in a greater or lesser degree, become covered with a pellicle which, at a later period, as in fistulæ and abscesses, constitutes a kind of adventitious membrane round them, the throwing off of which (mauser) gives occasion to the formation of epithelium cells, but which do not as such belong to the tubercles. Tubercles, therefore, possess no true organic nature. The hypothesis of the parasitic nature of the growth of tubercles has much contributed to the misunderstanding which has prevailed regarding their structure. Tubercles, however, are certainly not of this character. A correct view of the nature of this diseased formation will bring their treatment into harmony with their pathology." Pp. 393–395.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

DESCRIPTION OF A DOUBLE BICEPHALOUS MONSTER. BY DR BENEDINI.

ON being called to this woman, Dr Benedini found one of the heads in the pelvis. After it had passed the external orifice, no efforts could advance it any farther, and a suspicion of the real state of the case having been excited after careful examination, it was believed best to separate the head first born, and then attempt to complete the delivery by bringing down the feet. This was effected after long and arduous efforts, and birth given to an immense monstrous fœtus at the full time. The mother, notwithstanding her sufferings, made a good recovery.

The monster weighed twelve and a half Austrian pounds, and was eighteen Paris inches in length. Its greatest circumference was nineteen and one-fourth inches. There was a single umbilicus, exactly in the centre of the body. The nails were perfectly developed. The hair thick and long, covering the two heads, which were well formed, and each as large as that of a fœtus at the full time. The surface of the body was smooth,—the members very well developed. In fact, there was every appearance of full maturity.

On examining the external configuration of the monster, it was evident that the two fœtuses, one of which we shall call the right, and the other the left, were united along the thorax and abdomen. The right costal half of the anterior part of the chest was formed by the right fœtus, and the left by the left. The thorax was large, and the ribs, longer and more arched than common, were inserted into a prominent sternum, on each side of which, in their usual situation, were observed the two mamillary prominences. Posteriorly, and somewhat to the left side, the conformation of the thorax became more complicated. Here the confused traces of another imperfectly developed and extremely irregular sternal region could be felt. Two small eminences, with an areola, were also to be observed here, and lower down, forming a triangle with them, another point indicating the situation of an umbilicus. The direction of the two vertebral columns could be distinctly felt and followed. Each fœtus had a distinct spine, apparently well formed, and distant from one another one-fourth of an inch at the upper part, whence they gradually approached one another, and united finally into one near the top of the sacrum.

The two heads were united to this double trunk by separate necks. They are precisely similar, with the faces directed forwards. The thyroid glands were enlarged in both. From the sides of the thorax hung the two arms in their natural situation. Posteriorly, and between the two heads, there was a third arm, articulated in a kind of deformed scapula,—the humerus being larger than natural, and the fore-arm consisting of a double set of bones as far as the wrist, to which were attached the two small hands. Precisely under this third arm, and where the axillary cavity should have been, existed the traces above described of a second imperfect thoracic cavity.

The abdomen anteriorly became, towards its lower part, simpler and less voluminous, in fact, more like that of a single fœtus; and the inferior extremities came off in their natural situation, one belonging to each fœtus, and both well developed. But posteriorly, and a little more to the left, there was superadded to the natural pelvis another os ilium and a deformed portion of pelvis, whence arose an osseo-carneous process two inches in circumference, and oblong, with three articulations; and terminating at its lower extremity in something like a human foot, with three phalanges or toes furnished with nails. This protuberance was in the same direction as the superadded upper extremity above described.

A single umbilical cord in the middle of the anterior part of the belly,—the genital organs single, and of the male sex,—the penis well developed, two testicles in the scrotum,—a single orifice in the raphe precisely at the root of the penis, from which meconium issued, (which was the only sign of an anus,)—were the principal additional points observed externally.

On opening the anterior thoracic cavity, it appeared unusually large, as being formed by the anterior portions of the chests of both fœtuses. It extended from one vertebral column to the other, between which was an ample sac, the pericardium; on opening this sac two small hearts were observed floating in about two ounces of aqueous fluid. The hearts were quite free and unconnected, but lying in close contact parallel to one another. At the sides of the two vertebral columns were the lungs, and around the heart the double arterial and venous system; and finally, the arterial canal from which the small pulmonary arteries proceeded to divide in the respective lobes of the lungs. Posteriorly, the cavity was closed by a fibrous septum adhering to the two vertebral columns, —above by the thymus gland, which occupied the lower part of the neck and the upper part of the chest above the pericardium; and below, by the diaphragm, which, attached to the two vertebral columns, the posterior fibrous septum, and the anterior part of the ribs, separated the thoracic and abdominal cavities.

The abdominal cavity was next examined. There was a single liver of large size, occupying the whole upper part of the abdomen, into the concave surface of which the umbilical vein was inserted. The gall-bladder, stomach, pancreas, spleen, and intestines, were all single, and in their natural situation. In the pubic region were two urinary bladders situated one anteriorly, and the other posteriorly—the first full of urine, the last empty, and both terminating in one neck of the bladder, and in one single urethra. The kidneys were four in number, two naturally situated in the cavity now described, and two very small ones in a superior posterior narrow cavity to be described immediately. As to the course of the ureters, it was impossible to trace them accurately, or say in which of the bladders they respectively terminated, owing to the depth at which they lay, and the quantity of fat with which they were surrounded.

On directing the attention to the posterior cavities, observed in the thorax and abdomen, the integuments being removed from the former, exhibited the sterno-costal ossification of small size, irregularly arched, and having its parts closely united. On removing the bones, two small shrivelled lungs were observed lying in a triangular space, of which the base was uppermost, one in the left side of the vertebral column of the right fœtus, and nourished by the blood of the right heart; the other, on the right side of the spine of the left fœtus, and nourished by the left heart. A very small diaphragm bounded this small cavity, which muscle was attached posteriorly to the septum, which divided the two thoracic cavities; and its fibres were continuous with those of the other diaphragm, or at least in such a state of contiguity as to offer no apparent separation, except what was marked by the septum above described. This would have been an important circumstance, as regards the performance of the function of respiration, had the monster lived. In the posterior abdomen, there was the small liver, without any insertion of the umbilical vein or other ligament into its concave surface. The other viscera of the abdomen were imperfectly developed. Two small bodies covered with fat, spoken of above, were the kidneys, —the intestines were small, and empty, except the ilium, in which meconium was found, and which terminated in the cœcum of the anterior cavity, so that the small intestines were double, and the large single. The large intestines terminated in the opening in the raphe, already described as affording the only trace of an anus.

All the other viscera and parts of the body were as normal in structure, and in the same physiological condition as those of any healthy and well developed fœtus at the full time.—*Gazetta Medica di Milano*, January 1844.

PRACTICE OF PHYSIC AND PATHOLOGY.

ON NEURALGIA, AND ITS TREATMENT, ESPECIALLY UPON THE CASES IN WHICH ELECTRO-PUNCTURE IS LIKELY TO EFFECT A CURE. BY DR E. HERMEL.

We subjoin an abstract of the author's cases.

CASE 1.—I., a man aged 44, was admitted into the Hôtel Dieu, on the 9th of March 1844, affected with traumatic neuralgia of the sacro-lumbar, and lesser sciatic nerves, of five months' duration. When a patient at the St Louis, vapour baths had greatly alleviated his sufferings. Moxas were also used at the same time. They were again employed at a subsequent period, but without any benefit. Electro-puncture was used eight times in the Hôtel Dieu; and on the 31st, he was dismissed cured. The first application of the electro-puncture is thus described: "A needle was inserted into a painful part on a level with the posterior and external third of the crest of the left ilium, and another a little below the external malleolus in front of the fibula. The upper needle was put in communication with the positive pole of a trough galvanic apparatus, of which the pairs of plates were 0.09 centimetres square, the other conductor was fixed to the inferior needle. The electricity was evolved by the action of highly acidulated water. By degrees he supported the shocks from 20 pair of plates during 10 minutes. Copious perspiration was excited especially in the affected limb, which, immediately afterwards, he was able to bend with much less pain than formerly." The dates of the reapplication of the electro-puncture were the 14th, 16th, 18th, 21st, 22d, 23d, and 24th March. It is stated, that although the operation was repeated before his dismissal, on three consecutive days, there was no return of the pain after the 21st.

CASE 2.—H., a man aged 26, was admitted into the Hôtel Dieu, with neuralgia of the right peroneal nerve, of fifteen days' duration. The pain was constant, but of two-fold severity during the night. He had also convulsive movements. During eight days he was treated by blisters, which afforded some relief to his sufferings, but diminished the necessity for using a stick in walking. After the first application of the electro-puncture the night pains ceased, and the movements ameliorated. The second operation was followed by still farther improvement. After the third, he experienced fatigue in the limb, and pain in the punctures, over which, six days afterwards, a small suppurating pustule appeared, which was speedily removed. On the 21st May he left the hospital cured, and not limping. In this case the electro-puncture was only applied three times. It did not, as in the former case, occasion sweating.

Case 3.—P. came for advice to the Hôtel Dieu on the 30th August 1842. He stated that for four months he had suffered from sciatica, which had been treated without any benefit, by frictions with opodeldoc and turpentine, and afterwards by blisters. He was subjected to the electro-puncture operation; and during 15 minutes he sustained the shocks of 15 pairs. A copious sweat.

Case 4.—A woman aged 70 who was admitted as a patient at the Hôtel Dieu, October 1841, labouring under sciatica, originating in no assignable cause, of six months' standing, and of a very aggravated character. Electro-puncture was the only treatment resorted to, one application of which caused copious sweating in the limb, and effected a cure. This took place on the 2d November, and her dismissal on the 6th of the same month.

Case 5.—L. C. aged 33, a harness-maker, was admitted into the Hôtel Dieu on the 17th March 1842. This was a case of neuralgia of the lumbar plexus, and some of its branches, from which the patient had suffered for about a month before admission. He was first treated before admission, for disease of the kidneys, by leeching and cupping, which caused some relief. Some amendment followed this treatment, but after eight days, the pains reappeared with their original intensity. On the 18th, the electro-puncture was used. A needle was inserted into the lumbar region of the right side, and another a little within the anterior and superior spine of the ilium. He was subjected for twelve minutes to the play of 20 pairs of plates; after which he experienced relief. Upon the 19th, the following day, he suffered some slight shooting pains, but was able without pain, to stand, sit, and move his legs. Upon the 20th the amendment continued. Upon the 21st needles were inserted in each loin, when during ten minutes, he was subjected to shocks from 30 pairs of plates very strongly charged. From this time till his dismissal on the 29th, he continued perfectly cured—finding himself, to use his own expression, "as supple as a hare."

Case 6.—M., a butcher's boy, was admitted on the 6th of January 1842, as a patient into the Hôtel Dieu, affected with double sciatica and paralysis, of five weeks' standing. The first application of the electro-puncture caused the pains to cease, and was followed by the involuntary discharge of urine during the night. After several applications of the electro-puncture, the original disease, as well as the incontinence of urine, were completely cured; and upon the 21st day from his admission, he left the hospital, having been quite well for eight days previously.

Case 7.—On 9th Sept. 1841, L. P., aged 45, a labourer, was admitted into the hospital. A month previously, without any assignable cause, he experienced cold in the feet, and subsequently numbness extending to the legs; after this he began to feel acute pain in the course of both sciatic nerves, followed by such numbness as to occasion the loss of the power of movement in both limbs. Upon examination, it was found that he could not in any degree move the lower extremities. He had constant and severe pain, aggravated by pressure made with the finger, extending in the course of the nerve, from the sciatic notch down to the feet, which he stated were constantly cold. He complained of almost total want of sleep. On the 10th, the electro-puncture was performed for the first time. It was followed by both limbs breaking out with sweat, and by immediate relief to the pain: he was able to move the limbs, and on the following night he slept well. On the 11th, the operation was repeated, with a manifestation of the same sweat, and farther improvement. On the 14th, he was able to walk without crutches. Between the 13th and 29th there was no farther application of the electro-puncture: but every two days he had a vapour bath. Under this treatment he became able to walk with the assistance of a stick only. On the 28th there was a four hours' fit of pain in the right thigh, on which account the electro-puncture was for a third time had recourse to on the 29th. It had the desired effect of finally removing the pain: at all events, up to the 8th of October, the date of his dismissal, there was no return of it. He had, however, still some remains of the numbness, especially of the right foot in walking.

CASE 8.—O. L., aged 27, was admitted into the Hôtel Dieu on the 29th Nov. 1841, labouring under sciatica supervening upon meningitis, of fifteen days' duration. Upon examination he was found to be extremely weak and reduced by the rigorous antiphlogistic treatment adopted during that period. He was suffering extreme pain, and could not move the affected limb. He lay on the right side, with the back covered and the thighs and legs bent. He complained of great pain extending from the ischium to the popliteal space. The slightest touch at the upper part caused pain to pass through the whole thigh, but particularly in the course of the crural and sciatic nerves. He was in constant dread of the pain being excited by touching or moving him. An anodyne draught, beef tea, and electro-puncture were prescribed. It was with great difficulty that he endured for four minutes the shocks of a feebly charged battery of 30 pairs of plates. One of the needles was inserted in the origin of the sciatic nerve, the other in the inferior third and the crural. On the following day he was able to sit and move a little. The operation was repeated, and the shocks were continued during ten minutes. This was followed by a total cessation of the pain; but he still was unable to stand. Next day the electro-puncture was used for the third and last time; the patient was able to stand and walk without support. On the 6th, that is two days later, he was dismissed cured.

After some general remarks on these cases, which we have laid before our readers in an abridged form, the author sums up with the following

CONCLUSIONS.

1. Electro-puncture is suitable in cases of idiopathic or essential neuralgia.

2. The intensity of the pains is no contra-indication: under its influence the pain has never been increased.

3. Palsy supervening upon essential neuralgia yields under the employment of electro-puncture.—*Annales Médico-Psychologiques*, for March 1844.

ELECTRO-PUNCTURE AS A THERAPEUTIC AGENT. BY DR SHUSTER.

At the French Academy of Sciences on the 16th of January 1843, Dr Shuster read a paper on this subject, which terminated with the following conclusions.

1. Electricity is useful as a therapeutic agent, only when introduced into the substance of the affected organs by means of acupuncture.

2. Galvanic electricity and the electro-magnetic fluid, when employed by acupuncture, constitute at once the most powerful and inoffensive medicinal agents which we possess.

3. The affections for the cure of which electro-puncture may be employed with success are, *First*, hydrocele, ascites, (idiopathic or symptomatic of curable lesions,) hydrothorax, and articular dropsies. Its use may be extended to chronic hydrocephalus, dropsy of the pericardium, and the greater part of the dropsical effusions. *Second*, lissomatous, steatomatous, atheromatous, meliceurous, serous, and synovial cysts. *Third*, congestions and indurations, chiefly those of the lymphatic glands, of the testicles and epididymis, indurations of the cellular tissue, in the neighbourhood of certain kinds of ulcers, and in the walls of fistulous passages, certain indolent tumefactions: and there would be nothing irrational in attacking cancerous affections in the same way. *Fourth*, goitre. *Fifth*, varicose dilatations, especially when the electro-puncture can be aided by rest

and compression. The author does not despair to apply with advantage this treatment to aneurisms and erectile tumours. *Sixth*, chronic rheumatisms, neuralgia, and certain nervous diseases. *Seventh*, paralytic affections in general, but especially those of the retina, *(amaurosis asthénique)* and of the muscles of the voice, *(mutismas paralytique.)*

4. Electro-puncture applied to the treatment of diseases acts in several ways, viz.:—*First*, as a direct stimulant of sensible contractility, and absorption. *Second*, by causing small eschara, thus as it were cauterizing, and destroying in detail a portion of the tumour. (The *cautérisation* galvanique, or *sous cutanée* of the author.) *Third*, by decomposing the aqueous portion of tumours. *Fourth*, by forming, at the will of the operator, minute openings for the exit of the fluid part of tumours. *Fifth*, by producing in the wall of a cyst or other cavity such a degree of inflammation as will cause obliteration by adhesion without giving rise to any inconvenience, if the patient be kept under strict surveillance. *Sixth*, by coagulating the blood, and causing effusion of little masses of plastic lymph into the cellular tissue.

5. The success of electro-puncture depends on the method employed.

6. Electro-puncture properly applied is, in the majority of cases, attended with slight pain only, is free from inconvenience and danger to the patient, and frequently accomplishes a cure when all other means have failed.—*Proceedings of the Academy of Sciences*, as reported in the *Gazette Médicale* of 21st Jan. 1843.

[There can be little doubt that Dr Shuster has ridden his hobby too hard, and given, like most writers on specially favourite remedies, a far too favourable estimate. We would remark also, that some of the patients whose cases are detailed by M. Hermel were not a sufficient time under observation, after the symptoms were removed, to entitle us to pronounce the cures as complete, though enough is recorded to convince us of the great value of electro-puncture in neuralgia. We would like to know, whether any clinical experiments have been made to test the comparative advantages of simple acupuncture and electro-puncture? We are inclined to believe that the former often cures sciatica just as rapidly and efficiently as the latter: and it has the advantage of being attended with less pain.

For some interesting remarks upon the *modus operandi* and method of employing *acupuncture* and electro-puncture, we refer to pp. 48–50 of our volume for 1842.]

DIGITALIS IN CERTAIN DISEASES OF THE HEART. BY PROFESSOR WM. HENDERSON.

The very signal changes which some diseases of the heart produce on the construction of the organ as an hydraulic machine, point out that a frequency of its action, which may be advantageous in certain conditions of it, may be very much the contrary in others. Dr Corrigan, in his paper on *Permanent Patency of the Aortic Valves, (Edinburgh Medical and Surgical Journal,)* states that he had noticed that digitalis was not so generally useful in that as in most of the other diseases of the heart; and I agree with him. I do not say that very notable advantage is not derived from digitalis in permanent patency of the aortic valves, but that beyond a certain degree its characteristic operation is so much less beneficial than in the other diseases of the heart in which digitalis may be employed, or is actually so injurious, that it becomes a highly important practical rule to abstain from the prolonged or repeated administration of it in the disease in question.

Patency of the aortic opening, at that period when the ventricles are being filled, necessarily admits of regurgitation from the aorta, the effects of which are an overloading of the left ventricle, and gradually an enlargement of it—an enlargement so great ultimately, if the patient survive long, as to exceed, often to a great degree, that which occurs under any other circumstances. The greatest enlargement of the heart I have seen, larger than any other on record, was the consequence of permanent patency of the aortic opening. All the chambers of the organ had become affected with excentric hypertrophy, and to so great a degree that the weight of the empty heart amounted to thirty-six ounces two drachms and a half,—above four times the average weight of the healthy heart. Such being the tendency and issue of that overloaded condition of the organ which results from regurgitation from the aorta, it will be granted that whatever increases the amount of the regurgitation must accelerate the progress of the enlargement. That the less frequently the heart beats, the greater will be the opportunity for this regurgitation, is sufficiently obvious; and hence it is, that the prolonged employment of digitalis cannot but be injurious when the aortic valves are not competent for their office. The importance of this remark is very much enhanced by the fact that permanent patency of the aortic valves is one of the most common of the valvular diseases of the heart, and is perhaps the most easily distinguished during life.

What is disadvantageous in this disease, is eminently useful in some other diseases of the heart, and in none more than in those of the left auriculo-ventricular opening. Diseases of this opening, although of several kinds, produce but two sorts of effects on the circulation;—either, by merely narrowing it, hindering the transmission of blood from the left auricle into the ventricle, or, by rendering the leaves of the mitral valve insufficient to close it, while the ventricle is contracting, admitting of a regurgitation of blood into the auricle. When either of these occurrences amounts to a considerable degree, and is of long continuance, hypertrophy of the right ventricle supervenes, and then it is that the sufferings from dyspnœa are developed, and that dropsical effusions are apt to take place. The circulation through the heart is materially impeded, and the lungs,—partly from this cause, and partly from the augmented power of the right ventricle,—placed as it were between two fires, become overloaded with blood, and distressed with the sense of suffocation. And not only so, but the whole venous circulation becomes retarded, and congestions occur in distant viscera. Superadded to the mere mechanical imperfections which result from the diseases of the opening, and the hypertrophy of the right ventricle, an increased frequency of the actions of the heart very commonly attends, either as a permanent occurrence, or as an occasional event dependent on bronchitic attacks, and, usually, in proportion to this frequency are the distress from dyspnœa and the amount of the dropsy. A very moderate amount of bronchitis is enough to excite much suffering from what is called difficulty of breathing. Impeded transmission of air into the cells of the lungs is commonly considered the source of the evil, though the dyspnœa is often very great without there being any stethoscopic evidence of such impediment; and, that I am right in ascribing it rather to the increased frequency of the actions of the heart, appears from the facts that mere muscular exertion, by increasing that frequency, suffices to produce or to aggravate the dyspnœa, and that a diminution of that frequency through the instrumentality of digitalis suffices to lessen or to remove it. The reason why an acceleration of the pulses of the heart excites or increases dyspnœa and dropsy in the diseases of the left auriculo-ventricular opening is twofold. In the first place, it does so on account of the hypertrophic condition of the right ventricle, and, in the second, on account of certain occurrences at the diseased opening. Thus, when there is narrowing only of that opening, the more frequent closings of the valve cause a more frequent interruption to the onward motion of the blood; and, when there is a patent state of the opening, a more frequent regurgitation, and a greater amount of it in proportion to the quantity of blood which has had an opportunity of passing into the ventricle. Such being the natural effects of an increase in the frequency of the actions of the heart, it is easy to understand how a diminished frequency operates in relieving the disorders which attend on the diseases which have been referred to. This operation is useful in several ways; it moderates the force with which the blood is propelled into the lungs, and, by the lengthened interval between the contractions of the heart, it allows of the left ventricle being more fully distended in the case of the narrowed opening, while it lessens the frequency of the interruptions to the passage of the blood, and, in the case of patency of the opening, prevents the regurgitation from being so often repeated.

That these latter circumstances are not visionary, but real and efficient, is manifested by the great change which is witnessed in the size and force of the pulse at the wrist, when the digitalis has produced its full effect on the actions of the heart. From being very small and feeble before the digitalis has been administered, the pulse becomes full and firm when the medicine has reduced the number of the contractions of the heart to 40 or 50 in the minute. Coincident with this change, other important improvements occur. The respiration becomes freer and easier, the amount of urine increases, and the dropsy begins to disappear; improvements which are due to the bettered circulation through the heart, and the consequent diminution of those mechanical congestions which had embarrassed the lungs, and hindered the action of the kidneys. In illustration of these views, two cases are given, the one of narrowing of the left auriculo-ventricular orifice, the other of regurgitation through it, and both with hypertrophy of the right ventricle. In each, as the heart beat more slowly, the urine increased, and the dyspnœa and dropsy diminished. At first, for a few days, in one case, squill and bitartrate of potash were conjoined with the digitalis for the purpose of securing a diuretic effect with more certainty; they were speedily omitted. I conceive that the digitalis did not act as a diuretic, in the common sense of the term, by augmenting directly the functional activity of the kidneys, but indirectly, in consequence of its lessening or removing the venous congestion of these organs, in common with that of other viscera. Digitalis has been conceived to have the power of increasing the secretion of urine by a more direct influence, perhaps a stimulation of the kidneys, since it has appeared to augment the quantity of urine sometimes in healthy persons, and has been known to produce a similar effect on other secretions, occasionally to a very considerable degree,—on the saliva for example. But that in the cases in question the medicine could not be supposed to have acted in this way, but in that which I have detailed above, appeared to be proved by the continuance of the copious secretion of urine so long as the effect of the digitalis continued to be exerted on the heart, many days after the drug had been omitted; and by the decrease in the amount of the urine which occurred when the action of the heart rose to its previous frequency.—*Northern Journal of Medicine*, May 1844.

DIGITALIS IN CERTAIN DISEASES OF THE HEART. BY PROFESSOR SCHÖNLEIN of Berlin.

Professor Schönlein in the course of his daily clinical remarks to the students spoke as follows of the effects of digitalis upon a patient with dilatation of the left ventricle, moderate hypertrophy, and affection of the aortic valves:—"Objections have been raised latterly against the use of digitalis in complaints of the heart, particularly by English physicians. Stokes especially warns us against its use in affections of the valves of the heart. I am ready to do full justice to the intention of the Irish physician, for I have myself observed, before his researches were known to me, that digitalis must be used carefully in diseases of the heart, since it easily paralyses the activity of that organ. But I cannot warn, so generally as Stokes has done, against using digitalis in diseases of the valvular apparatus; for the more tumultuous the contractions are, the more they disturb the circulation; the intermissions are only to be considered as efforts of nature to restore the equilibrium; the slower the contractions follow each other, the more seldom will nature cause such intermissions of the pulse to appear. You see here how digitalis, while it retards the pulse, makes it at the same time more regular. But let us examine the question under its real point of view. We have to consider the impediment which hinders the circulation, and the force which the heart requires to surmount it. If this is very considerable, if it proceeds from *stenosis* of the heart, or complete ossification, every thing that diminishes the energy of the heart, which has to surmount this obstacle, must be pernicious. In such cases, stimulants such as sinapisms, and inwardly naphtha and the salts of ammonia, will be applicable. Here, I believe, lies the whole difficulty of the question. We have to ask whether there are symptoms which enable us to ascertain, during life, the greatness of the impediment? No doubt there are such; they consist in the degree, the quality, and the violence of the morbid sounds that we hear through the stethoscope. If we have the simple bellows-murmur, we admit that the impediment is not very considerable (only partial ossification of the valves,) but the more the murmur approaches the rasping or filing sound (*bruit de râpe ou de lime,*) the more metallic and grating it is, (which is not the case here), the greater we must conclude the degeneration of the valves to be, and in this latter case digitalis must be prescribed with care. Some, to avoid the difficulty, have made an almost ridiculous use of this remedy, namely, of the ethereal tincture of digitalis; on the one hand ether, on the other digitalis, which plays quite a secondary part in this preparation. The effect of digitalis is very different in different individuals: with the proviso that it be always genuine, it must not be supposed that great doses are necessary to procure its effect. I have frequently found that powder of digitalis, given four times daily, in doses of half a grain to one grain, very soon produces a positive effect. It is, therefore, always safer to begin with small doses, and to increase them gradually, if the effect does not follow. I have also found that the effect lasts frequently four to six days after the cessation of the medicine. The dose we make use of in this case is not great,—we shall, therefore, continue its use. But as we wish to act more energetically upon the intestines, we shall add to the infusion of digitalis some aqueous tincture of rhubarb."—*Lancet*, 11th May 1844.

ILLUSTRATIONS OF CONGENITE SYPHILIS. BY WILLIAM CAMPBELL, M.D., Consulting Physician-Accoucheur to the Edinburgh Maternity Hospital.

In 1823, I was requested to attend, in her second confinement, Mrs C., the lady of one of my brethren, then six months advanced in her pregnancy; and in a few weeks thereafter, she was delivered of a male child, which lived only eight hours. It presented no morbid appearance, nor was its development less than that of other fœtuses whose residence *in utero* was of similar duration. No cause was assigned for the premature labour; and I was now informed that in her previous confinement the birth was also premature, and that the infant survived only a few hours. In the summer of 1824, I again attended this lady, when labour supervened in the seventh month; but on this occasion the fœtus was dead; and from the extent of decomposition, and the information derived from the parent, life must have been extinct for more than ten days. After these repeated misfortunes I resolved on an inquiry. The gentleman was a young physician, and I ascertained that about six months previous to his marriage with a young and amiable lady, he contracted what appeared to himself and another junior member of the profession, a chancre. After employing the usual means, and considering the disease removed, he married. At the period of this investigation, there was not in either parent the least evidence of the syphilis in any form,—nay, both the individuals enjoyed perfect health.

In the foregoing case, the gentleman was salivated; the lady also, as a matter of precaution, took a grain of calomel daily, for eleven days, when the gums became affected to a much greater extent than was intended. When the uterus was restored to its unimpregnated condition, this lady again conceived, advanced to the usual term of gestation without any tendency to premature uterine action, and was delivered of a vigorous male infant, free from any syphilitic taint. There was no more issue, for the father died within a year from this birth.

In the autumn of 1843, I was consulted by a lady from the country, ten weeks advanced in her fourth pregnancy. Her first infant was born in the early part of the eighth month of gestation, was delicate, and lived eleven days. The delivery was attended by a profuse discharge of liquor amnii. Her second birth happened in the seventh month, the infant surviving only an hour and a half; and her third delivery happened in the sixth month, when a fœtus much decomposed was produced. After careful inquiry, I satisfied myself that the lady never had any syphilitic symptoms. Before I could decide on a suitable plan of treatment, I requested an interview with the husband, from whom I learned that about 23 years previously, and 17 years before marriage, he had had syphilis repeatedly; and though assured to the contrary, his impression always was, that the disease had not been completely removed. These parties were apparently in perfect health. I determined on exhibiting mercury to the gentleman, and he was accordingly twice mildly salivated. But I hesitated at first to order this medicine for the lady, lest the uterus might be excited, and the ovum thrown off. Proceeding, however, upon the belief, (from what happened in her three former gestations,) that the fœtus would be destroyed unless mercury were exhibited, and that there was a chance that the medicine, under prudent management, might not occasion premature expulsion, I determined to salivate the lady also. She was twice salivated, after which she enjoyed excellent health; and until the seventh month she advanced in her pregnancy with out even a tendency to premature uterine action. From this date, however, there were frequent threatenings of premature expulsion, which repeatedly required the abstraction of blood, and doses of from 80 to 100 drops of the solution of the muriate of morphia to allay them. At the close of the eighth month, a living, healthy, small female fœtus was produced.

I have also met with repeated instances where, after minute inquiry, and acknowledged contamination on the part of the female parent, I have been satisfied that she alone was to blame for a series of misfortunes such as have now been related.

From the Graafian vesicle being a part of the female parent, and the ovulum after fecundation being dependent for its development on the fluids derived from her system, it will readily be admitted that the progeny will be healthy or diseased, according to the condition of the materials furnished for its support. But we cannot so easily comprehend the transmission of syphilis from the male parent to the product of conception. But although we can no more explain this point than we can the transmission of mental peculiarities, similitude of features, gout, scrofula, phthisis, cancer, and supernumerary fingers and toes, yet it would be absurd to call its reality in question, when such glaring and numerous facts are so frequently brought under our notice.

In occasional instances a fœtus much contaminated with syphilis will be retained to the full period of utero-gestation, and even appear plump and healthy for days or indeed weeks after birth, but such cases are exceptions. The circumstance, though undeniable, we cannot explain; nor yet why abortion should generally happen when the fœtus is sickly, or has been destroyed by syphilis. All we know is, that when the development of the fœtus is interrupted, or its life becomes extinct, it is a law in the economy of the reproductive system of the female, for the uterus to be sooner or later excited to rid itself of its contents.

In some instances, there is reason to believe that the virus is increasing in activity, from the circumstance of the first fœtus produced not only being born alive, though premature, but continuing to live for some time, while several succeeding productions are not only stillborn and decomposed, but have been expelled at an earlier period of gestation. In other cases again, all these circumstances are reversed,—the disease would appear to be exhausting itself. The following case would seem to prove that in a twin pregnancy, the virus sometimes progresses very differently in each fœtus. In 1823, a pupil of my class delivered a woman of twin males at the full time. The first was dead and much decomposed, while the second was living, plump, and apparently healthy. We were unable to account for this remarkable difference for some weeks, when the secret was revealed by the living infant exhibiting unequivocal evidences of syphilis; and shortly thereafter, the female parent also became affected with secondary symptoms.

I have seen several instances in which a diseased infant contaminated a perfectly healthy nurse. In one of these cases where there were ulcers on the child's mouth, the breasts and thereafter the whole system of the nurse were affected, and that in so short a period of time as to be scarcely credible. On a Sunday afternoon this individual received to nurse a twin infant born of a parent who had been contaminated by her husband, but in whom the complaint was thought to be completely removed by the use of the hydriodate of potass; and although, from the disease having appeared in the child, it was returned to its mother on the Thursday following, the nurse was nevertheless contaminated; the mammæ became affected with copper-coloured blotches, and the nipples surrounded by chops and small ulcers.

In infants, at birth, syphilis shows itself under various forms. Some are well developed, apparently healthy, and continue so for days or even weeks, when the pelvic limbs suddenly become indistinctly marbled, and if the mischief, as is very apt to happen, be not recognised, the child may be carried off after a few days in convulsions, without exhibiting any other evidence of syphilis. In a second case, the infant is imperfectly developed, presents the appearance of old age in miniature, a sallow emaciated aspect, numerous large pustules scattered over the surface, ulcers on the lips and angles of the mouth, and hoarseness of the voice. The pustules may be flat or prominent, suppurate quickly, desiccate without bursting, and are soon converted into dark crusts. Unless this variety be actively and promptly attended to, the little patient is very apt to perish. A third form in which syphilis shows itself in infants at or soon after birth, and which, as far as my observation enables me to speak, is the most frequent, is by the genitals being pervaded by an extensive excoriation, which attracts little attention until scaly copper-coloured blotches are seen on the nates and soles of the feet, whence they extend to other points of the pelvic extremities, as also to the groins and umbilicus. A great part of the surface is at last pervaded by copper or livid coloured blotches; which, on the face and neck are dry, and covered by mealy exfoliations; while on every other region of the body they are humid. On the head, the hair appears like down, though on other parts of the body it be natural. At length the external mucous tissues become affected, as the lining of the eyelids, nose, and mouth, and of the vagina in female children. An ichorous discharge may flow from the nostrils in both sexes, and from the vagina in the female; and in one instance I have seen this happen also in a premature male infant, whose mother died from syphilis in less than a fortnight after delivery.

Cases attended with pustules at birth, much affection of the mouth, and a considerable degree of hoarseness, require a very guarded prognosis.

Treatment.—It is scarcely necessary to recommend that those children should be reared by their parents, to prevent secrets of so delicate a nature being disclosed, and the disease being communicated to a hired nurse, who might afterwards institute proceedings in a court of law for the recovery of damages. I must express decided disapprobation of all attempts to rear such infants artificially, since they are generally so delicate that they are almost certain of being lost under such management. There are various preparations of mercury which may be used with safety and effect; but I have almost invariably preferred calomel. By some of our brethren we are advised to limit the exhibition of mercury to the nurse; but I am not aware that there are any good grounds for this preference, neither am I prepared to say from observation that it can be relied on.

The blue mass, hydrargyrum cum creta, and mercurial inunctions *to the soles of the feet*, are all safe. I commence with doses of a quarter of a grain of calomel, and two grains of creta preparata, once daily for the first ten days; and thereafter the quantity of calomel is progressively increased to a quarter of a grain twice each day. The disease disappears rapidly under the influence of this medicine; but nevertheless it is most difficult effectually to eradicate the virus; wherefore, I have made it a rule to continue the medicine for three weeks after every vestige of discoloration has vanished. I have seen ptyalism only once in a child in consequence of the use of mercury. When the nurse feels the child's mouth unusually warm, the medicine should be discontinued for a few days, lest convulsions might arise from irritation; a little mild laxative should be ordered; and during congenial weather, the little patient should be taken into the open air. Should the calomel excite diarrhœa, the medicine must be left off, and a dose of the tincture of hyoscyamus, with warm bath, ordered at bed-time. I have no faith in the exhibition of iodine in such cases; for in every instance in which I have known this medicine employed, the disease returned.—*Northern Journal of Medicine*, May 1844.

[It does not distinctly appear that Dr Campbell has seen a newly born infant presenting any of the characteristic appearances of infantile syphilis. Such cases perhaps have occurred; but if they have, it is certainly remarkable that they have not been seen by those who have had the best opportunities of meeting with them.

From the observations of Dr Cristofori, physician to the Foundling Hospital of Bologna, it appears, that in whatever way syphilis be communicated to infants, it most commonly manifests itself between the ages of one and three months; in very few individuals did it appear later; in almost none under a month; and in no single instance was a newly born infant admitted with the disease unquestionably developed. Infantile syphilis, he says, appears with herpetic eruption or ulcers. The latter, which are almost always present on the lips, inside of the mouth, genital organs, and nates, are circular, copper-coloured, and striated.—(*Gazetta Medica di Milano*, 6th April 1844.)

Dr Cliet, whose field of observation was the Foundling Hospital of Lyons, makes a statement on this subject identical with that of Dr Cristofori, viz., *that no traces of venereal disease are ever to be seen till some time after birth.*]

RESEARCHES ON THE SUBJECT OF ADHESIONS BETWEEN THE PERICARDIUM AND THE HEART. BY M. FORGET of Strasburgh.

The latest authorities on the subject of diseases of the heart state that adhesions between the two surfaces of the pericardium do not seem necessarily to interfere with the free action of the heart, and that no physical sign has yet been discovered by which we can detect such adhesions. M. Forget brings forward a number of cases which, in his opinion, go contrary to these statements. According to these facts, the following are the symptoms accompanying adhesions of the heart. 1. Strong, tumultuous, and irregular pulsations of the organ, coinciding with other signs of pericarditis, or succeeding to the known signs of ordinary pericarditis, or else manifesting themselves with other affections not sufficient to account for these disordered states of the circulation. 2. Smallness, inequality, and irregularity of the pulse, the result of the obstacles presented by the adhesions to the free movement and complete contraction of the heart. 3. Precordial anxiety, a tendency to syncope, and dyspnœa. 4. More or less œdema, pulmonary congestion, and glandular congestions; also cyanosis; all originating in obstructions of the venous circulation. Doubtless these symptoms are common to all the affections which interfere with the actions of the heart—it becomes necessary to inquire, therefore, what are the fundamental characters whereby we can distinguish the existence of adhesions of the pericardium from the other affections with which they may so easily be confounded.

The chief of these affections are,—1. Dry pericarditis without adhesion, in which the movements of the heart, besides being modified in character, are almost always accompanied with the superficial rubbing sound which is so characteristic, and which can only be produced when the heart moves freely within its capsule. When the adhesions are limited, however, this sound is capable of production, and so they may escape observation. 2. Pericarditis with effusion. If the effusion is abundant, the sounds of the heart, instead of being loud and superficial, will be distant and dull. The prominence and dulness on percussion in the precordial region will also be greater than in cases of simple adhesion. Pericarditis with effusion will also terminate very rarely in adhesions, because the surfaces of the pericardium, being separated by the fluid, will cicatrise, so to say, separately. 3. In valvular disease, the beats of the heart are commonly strong, but at the same time sharper and more regular, and almost always accompanied with a soft or grating bellows sound. This it is not always easy to distinguish indeed from a superficial rubbing sound, but this depends greatly on whether the physician has a practised ear. *Non crimen artis sed professoris est.* In complete adhesion, no particular sound at all will be heard; this is its distinctive pathognomonic sign. But when the adhesion is complicated with valvular disease the diagnosis of the first becomes singularly obscure. Still with practice the difficulty is by no means insurmountable. 4. A serious accident with which adhesion of the pericardium may for an instant be confounded, is the formation of bloody coagula in the heart during life. This will give rise to tumultuous action, smallness and irregularity of pulse, anxiety, dyspnœa, &c. But if the phenomena proceed from this cause, they will occur under different circumstances than those in which adhesion of the pericardium occurs. Besides, coagula form quickly, and produce death rapidly, while the process of adhesion is slower. 5. The various derangements which the circulation may suffer sympathetically, in many diseases not affecting the heart itself, can scarcely, it is believed, be confounded with the symptoms of adhesion. In fine, as acute adhesions are always the result of pericarditis, the fact of the existence of that affection is the best guide by which we may recognise or suspect the formation of adhesions, especially when the peculiar signs described above follow those of simple pericarditis. But when the adhesions are of old standing, the period of their origin, and the circumstances attending it, being unknown, it demands all the sagacity of the practitioner to detect them.

Adhesions between the heart and pericardium do not always terminate in death; the fact of the existence of old adhesions seems to indicate the possibility of a cure. But considering how little the signs of adhesion have been attended to hitherto, and how obscure they are during life at the best, it would be difficult to adduce cases in proof of this. We may easily figure to ourselves, however, what ought to be the progress of events in a case of cure, and that the more readily, from what is observed in pleurisy or pericarditis, terminating in adhesions without death. First of all, there would be the phenomena of pericarditis, pain, dyspnœa, fever, &c., which would gradually disappear. An obscure feeling of precordial uneasiness would however remain, the heart and respiration would be easily excited, the pulse would retain some degree of smallness, frequency, and irregularity. Finally, these traces of disease would insensibly disappear, or at least, cease to be perceived by the patient, unless when reproduced by the supervention of other disease, or causes tending to excite the circulation. So much for the symptoms; as to the organic lesions, general adhesions once formed may prove permanent. But it may happen, especially in partial adhesions, that the movements of the heart may prove sufficient to overcome the obstacle by drawing out and lengthening the bands of lymph, or even rupturing them if fragile. At all events, they may be converted into a kind of lax ligaments sufficiently long to allow the heart to act with freedom. It is quite possible that an attentive observer might, under such circumstances, detect certain abnormal friction sounds, were it not that the attention of the practitioner is seldom called in those cases to the condition of the heart.

There is reason to suppose *à priori* that independently of obstacles to the circulation situated in the great vessels, chronic pericarditis with adhesions, would give rise to hypertrophy of the heart. Facts, however, do not confirm this opinion. Finally, it appears that adhesion is a far more frequent termination of pericarditis than is usually supposed. On careful dissection, it will be found in many cases where it could not have been suspected, and in subjects whose previous history gave no grounds for believing that they had ever suffered from pericarditis. In fact, pericarditis itself may often pass undetected, especially by such physicians as do not practise auscultation.—*Gazette Médicale de Paris*, April 1844.

THE SOFT OCCIPUT; A CONTRIBUTION TO THE PHYSIOLOGY AND PATHOLOGY OF EARLY CHILDHOOD. BY DR C. L. ELSAESSER.

This affection has not hitherto been noticed by medical writers. It consists in a softening of the cranial bones, and consequent thinning of those parts of the skull, such as the occiput, which are much exposed to pressure; hence the designation of "soft occiput." Dr Elsaesser considers it a variety of rickets,—that form which rickets assumes in the infant. In the course of five years, forty cases have come under his notice, fourteen of which have proved fatal.

The skull of children labouring under this disease, is soft, easily cut, its bones have lost their compact structure, have become softer, more vascular, and similar to the spongy bones. They have lost their smooth surface, and fibrous texture, and have become rough, and porous,—a state produced by the diminution of their earthy constituents, and a disintegration of their tissue. Various spots will be found at the posterior part of the skull, where the osseous substance is extremely attenuated, or even totally wanting, and these spots will be found to correspond to some of the gyri of the brain.

The symptoms of "the soft occiput" generally make their appearance about the third or fourth month; the children sleep ill, and with their eyes half open; roll the head much about; and perspire much, especially about the head. They are surprisingly cheerful during the day, except they chance to fall asleep. The whole nervous system is extremely excitable. The digestive organs are more or less disturbed, and catarrh and diarrhœa are common.

The predisposing cause of this disease is a congenital weakness of the constitution, with which is usually associated a tardy development of the whole body, and especially of the osseous system. Impure air, damp, and want of, cleanliness, are also powerful exciting causes. The disease is more common in winter than in summer.

The rules by which the treatment is to be regulated, do not differ from those that would apply to delicate children in general, except in regard to the pillow for the head, which should be soft, clastic, cool, and so formed as not to allow the head to sink too deep into the pillow. The medicinal treatment of the disease consists in the administration of preparations of iron, which the author thinks answer better than the oleum jecoris aselli—or than quinine, and other tonics. With these internal remedies, the employment of tonic baths was combined. Baths, containing decoctions of aromatic herbs, or an admixture of iron, were used with benefit; but none appeared to do so much good as tan-baths. These were prepared, by boiling two or three handfuls of ground oak-bark, such as is used by tanners, in two or three quarts of water, for half an hour, and then adding the decoction to the bath. Cold sponging may be advantageously combined with the use of this bath.—Abridged from the *British and Foreign Medical Review* for April 1844.

SURGERY.

PRACTICAL OBSERVATIONS ON THE LATERAL OPERATION OF LITHOTOMY. BY WILLIAM KEITH, M.D., Junior-Surgeon to the Royal Infirmary, Aberdeen, and Lecturer on Clinical Surgery in that Institution. (*With two plates.*)

In my paper on *Hospital Statistics of Stone in the Bladder*, as occurring in the Aberdeen Infirmary, published in the March number of the LONDON AND EDINBURGH MONTHLY JOURNAL for this present year, (No. xxxix. page 242),[1] the tables show that, between the age of 50 and 60, six were operated on, and all recovered; between the age of 60 and 70, seven were operated on, and all recovered; and that of six operated on between 70 and 80 years of age, five recovered; giving, therefore, only one death in nineteen cases, where the ages ranged from 50 up to 78; a result so unusual that I trust it may form a sufficient apology for my coming before the profession with a detailed statement of a mode of practice that has been crowned with such signal success. I refrain from contrasting the above results with the recorded experience of others at like ages, lest it should seem invidious. Enough is said to awaken an interest in the mind of every practical surgeon to the annexed communication, when he is reminded that the mean mortality in England is one in seven and one-fifth; and that in France, Dupuytren admits, that between a fifth and a sixth of all who undergo the operation are lost; that in England, beyond the age of fifty, the rate of mortality rises to one in four or five, while in France, on the authority of the most eminent French surgeons, it reaches one in every two or three.

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[1] From the Edinburgh Medical and Surgical Journal.

I proceed, therefore, in accordance with the promise made in my last paper, to communicate and explain the principles that have guided me in practising the operation of lithotomy. In detailing these I am chiefly anxious to rivet attention on a few fixed principles, by acting on which other operators may, with certainty, calculate on results as fortunate as those above stated.

I will treat, *first*, of "the preparation of a patient for lithotomy;" "*2d*, of the instruments employed in the operation;" "*3d*, of the line of first incision;" "*4th*, of the line of second incision;" "*5th*, of the mode of entry into the bladder;" "*6th*, of the mode of extracting the stone;" "*7th*, of possible accidents during the operation, and modes of dealing with them;" "*8th*, of the general treatment after the operation."

1*st*, *Of the preparation necessary before subjecting a patient to lithotomy.*—It will be seen, by referring to the tables already alluded to, that on the average every patient was 60⅚ days in the hospital, 35½ days of which being subsequent to the operation, gives 25⅓ days spent on each case in previous preparation.[1] In young subjects I freely admit that very little preparation may suffice; yet my fixed opinion is, as no one seeks such a mode of relief until compelled by severe and protracted suffering, that every one would be the better for it. Their functions are less likely to be seriously disordered, and there are resources to draw upon in the vigour of their constitutions during their after treatment; but when the average age reaches 56½, and a foreign body has been so long in the bladder as to acquire a weight exceeding eight drachms, it is not to be looked for that a patient should present in fit state for operation. In some, especially those far advanced in life, the body is wasted to a shadow, and the strength quite exhausted by incessant suffering and want of sleep. In most the functions of the liver and whole digestive organs are deranged. In all the bladder is in a highly irritable or in an actually inflamed state, as indicated by the amount of pain, the quality of the urine, and the copious ropy deposit from it. When any or all of these exist, I deem it a first duty to attempt their cure. The digestive organs are brought into a better condition by alteratives, (generally the mercurial pill,) and light bitters. The strength is recruited by a generous diet, and the moment the inflammation in the mucous membrane of the bladder is quiet, wine is liberally allowed. The affection of the bladder is treated by enjoining absolute rest, moderate but repeated leeching over the pubis, followed by a succession of medium-sized blisters over the region of the bladder. The above, with the free use of diluents, such as thin gruel or linseed tea, sums up the treatment in this one class of cases.

Another and very different class presents, aged usually from 50 to 55, fat and florid—in short, in the highest state of plethora, and in the worst possible state for lithotomy. These I have bled with advantage, but only as a preliminary to a process of fining down by feeding them for two or three weeks on a light farinaceous diet. In those of this class which I have seen, the mucous membrane of the bladder was always inflamed, and leeches were freely applied, twelve and eighteen at a time, at times above the pubis, and occasionally, when the prostate was the seat of more pain than usual, they were applied to the verge of the anus, with excellent effects. It is thus seen how the time has been occupied between the day of admission and the day of operation. The annexed table will show how few or how many of a total of 23 had to go through such discipline, and also the exact time occupied in preparing each case.

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[1] Most of the patients came from a distance, and required to be well recruited before they were allowed to go home.

1	was operated on upon the 4th day after admission.
1	9th
3	14th
1	15th
1	16th
1	17th
1	18th
1	20th
1	21st
2	24th
3	25th
1	26th
1	27th
1	37th
1	38th
1	44th
1	51st
1	74th, whose age was 74.
23 Total.	$25\frac{1}{23}$ as the average.

In a disease that has existed for months or for years, I can see no necessity for hurrying the patient to the operating table, especially as, during the period of preparation, the kind and attentive surgeon will have an opportunity of securing the well-grounded confidence of the sufferer in his skill—a feeling desirable in every case where an operation is contemplated, but one almost essential to the success of lithotomy.

2*d*, *The instruments* I use, and would recommend to others, are few and simple. With the exception of a forceps, the whole will be seen represented of exactly half their natural size, (superficial, not lineal measure,) in Plate IV, accompanying this abstract.

1. The staff is large, curved, and long in the curve, so as to enter well into the bladder, having a wide deep groove more on its lateral than on its convex aspect, but between them, the groove made to terminate abruptly, as a check, fully half an inch from the point of the instrument.

2. The knife is long in the handle, narrow and short in the blade; and, short as it is, its cutting edge is limited to an inch and quarter from the point; the back of the point is rounded off a little; the heel of the blade thick, so that a very short hold can be taken of it when necessary, and its heel can do no harm when opening the urethra in the very deepest perineum.

3. The probe-pointed bistoury is very narrow, thick in the blade, and squared until it reach within an inch and quarter of the point, which is the extent of cutting edge.

4. The blunted gorget has its left edge quite rounded, the other ground to an edge, and then blunted with a file. The point well rounded into a blunt button. It is a copy from "Cheselden's Conductor," as represented in one of the plates in Heister's Surgery, page 183.

5. The slit probe will be found useful in pushing home the loop of the ligature, when it is thought advisable to tie the transverse perineal artery in weak and elderly patients.

6. With such a sharp hook, in a case where the artery of the bulb was cut in a fat subject, that artery and the transverse perineal forming apparently one common trunk, the perineum so deep as to prevent ligaturing, and sponge-plugs failing to restrain the hæmorrhage, the trunk was easily caught in the fold of the hook, and the bleeding effectually and permanently stopped by noosing the bend of the vessel over the point and heel of the instrument, and allowing the

hook to remain in the wound until two days after, when ulceration liberated it. Were it necessary, the pudic artery might easily be hooked and secured in the same way—a screw joining, half an inch above the hook, would allow the handle to be withdrawn, and leave the vessel safe in the close embrace of the ligature and the curved portion left behind.

As to forceps, Cheselden's has never been improved upon—strong in the handles that they may not yield and thereby lose grasping power—long for large stones—the blades of all hollowed—curved towards each other at the points, but not actually meeting—rough in the hollow, but not very sharp round the edges of the blades, lest the stone be thereby cut and chipped. The straight flat blades take an insufficient hold, and their points gape so as to dilate the wound during extraction much more than that above described.

3d, First incision in lithotomy.—Strange as it may seem, I find that I must join issue with several high authorities, living and dead, and challenge the line they recommend. Considering the narrow space and the fixed limits within which this incision must be made, one might naturally suppose there could be little room for difference of opinion about it. In truth, one of our best surgeons, in a paper on this subject,—the candour prevading which does honour to his head and heart,—so recently as December 1842, in the LONDON AND EDINBURGH MONTHLY JOURNAL, affirms, that " there is no difference of opinion as to the situation and extent of the external incision:"—I allude to Mr Syme. And if I may judge from a paper by Mr Bransby Cooper in the last volume of the *Guy's Hospital Reports*, published in January of this year, he is very much of the same way of thinking. Yet, notwithstanding the conclusions these eminent surgeons have deliberately come to on this point, I affirm that great and fatal difference of opinion exists on this very question; and because the space and limits are so confined the inquiry is clothed with importance,—seeing that even a slight deviation from the right line may be followed by serious, nay fatal consequences.

I quote from a living and from a dead authority, as representing a class of operators I think completely wrong. Dr Willis, in his work on the *Treatment of Stone*, published in 1842, at page 127, says, " In this country all the methods" (of performing lithotomy) " may be said to be reduced to one,—the lateral operation as it is called;—that operation in which, a grooved staff having previously been passed into the bladder, an incision is made in the perinæum from the side of the raphé, *about an inch or more in front of the bulb of the urethra*, downwards and outwards by the side of the anus, midway between that outlet and the tuberosity of the ischium."

Sir Charles Bell, whom I loved as a preceptor, and shall ever speak of with high respect as a scientific surgeon, is the next authority I call in question on this point, and I feel the more bound to do so, that his high rank in the profession, and his beautifully illustrated works on operative surgery, are calculated fearfully to mislead the young and inexperienced surgeon. In the second volume of his *Institutes of Surgery*, published in 1838, at page 58, he says, when treating of lithotomy, " The first incision is made by entering the knife *between the bulb of the urethra and the ramus of the os pubis*, on the left side of the perineum, and carrying it down past the anus. In doing this you do not cut with the face of the knife; for an incision thus made is sufficient to the eye, but the parts which ought to be divided are not cut. Therefore, strike the scalpel daggerways into the space *by the side of the bulb;* and as you carry it down you must bring it more superficial, or the rectum is in danger."

He says that he subsequently reversed the mode of making the incision, " plunging the knife with the edge upwards in, a little behind, and by the left side of the anus,—he cut quite up to the face of the prostrate,—moved it there so as to cut the essential parts, in order to lay bare the membranous part of the urethra; and withdrawing it, he cut across the transversalis, and, carrying the edge at once up by the side of the bulb, completed his incision;" and that no doubt might exist as to the line of incision he both practised and taught others to adopt, he gives plates, (see Plates 18 and 19 of his *Illustrations of the Great Operations of Surgery*, published in 1821,) showing the line of first incision, and also the whole course of incision onwards to the bladder. In Plate III Figs. 1 and 2, will be seen correct delineations of the views he gives in his *Illustrations of the Great Operations*, so that by the time this paper is closed every surgeon will be prepared to compare, and, having compared, to conclude whether a difference exists between the lines of incision represented in Plates I and II (which portray what I have always practised,) and those referred to, and then which are to be preferred.

The evil consequences likely to result from entering the perineum, in the line recommended by Dr Willis and so long practised by Sir Charles Bell, are, *first*, the great risk, or rather certainty, of cutting the artery of the bulb; *secondly*, injuring a part of the urethra not necessary to be touched; *thirdly*, bringing you in upon the bladder so high up between the rami of the pubis that there is not space from bone to bone to allow of the extraction of an average-sized stone. In short, I will now quote Sir Charles Bell's own strictures upon others, and apply every remark he makes to his own line of incision. Strange it is, seeing the error so clearly in others, he should still have so constantly risked the cutting down upon the *symphysis pubis*. At page 59, vol. ii. of his *Institutes of Surgery*, he says, " The most common error is in making the incision too high, —feeling for the staff. I have seen full one-half of the incisions above the level of the arch of bone, and consequently useless. The effect of this is, that when the operator has grasped the stone in the forceps, it is driven out of his hold by coming against the arch of the pubis; and he cannot, as he ought, draw downwards, because the incision is not low enough."

These express the sentiments I entertained from the first, of any line of incision in lithotomy commencing anterior to the bulb. I, time after time, satisfied myself in the dissecting room, of the inconvenience and the danger of adopting such a line. I considered that, whether in male or female, there was only space behind for expansion when any bulky body came to pass by the lower outlet of the pelvis, and that, therefore, the farther I could get my outlet from the symphysis the better. And what is there to fear in going past the side of the rectum, in place of going past the side of the bulb, as recommended? —Nothing—taking care of the gut; there is literally nothing to cut but the *levator ani* and cellular tissue, till you reach the edge of the *gluteus maximus* muscle, or the external sacro-ischiatic ligament, were it ever possibly required to cut so deep. These views resulted in my adopting the line of incision, shown on Plate I. at the end of this number. The *sphincter ani* being irritated to make it contract, and the perineum put on the stretch by the expanded fingers of the left hand, the knife is entered boldly behind the swell of the bulb close to the raphe, only one inch in front of the anus, in an adult; the knife is directed downwards and outwards, so as to run midway between the anus and tuberosity of the ischium, inclining more to the latter, becoming gradually shallower, the wound terminates at or near the edge of the gluteus muscle, about two inches behind the anus,—the line of incision being straight from the point of commencement.

By this incision I have, without difficulty, removed a stone measuring nearly three inches in diameter. In truth, it makes an approach to the outlet provided by an all-wise Creator in the other sex, enables you to act with your forceps in dilating the bladder and in extracting the stone in the proper line of axis, without fatally bruising the soft parts that intervene between the rami of the pubis and the forceps, when they are entered higher up and more forward; and, finally, it gives the most dependent opening that it is possible to conceive, for the escape of the urine during the recovery; and that opening exactly in a line with the internal incision which you make into the bladder, making the whole wound one clean cut from the neck of the bladder to the edge of the hip. As it is a question that admits of final settlement, and one that, from its importance, demands immediate settlement, I invite any one to note the success of those who have been known to practise the low line of incision from Cheselden downwards, and contrast that with the woful experience of such as, from inadvertence or wilfulness, have cut high in the perineum. In closing this section, I would guard myself from being understood as laying this down as *the* important point in lithotomy. I look on it as an important point, as influencing ease and safety in the after-stages of the operation; but my opinion is, that life and death, in the great majority of instances, hangs upon the right performance of the next step in the operation, which I now proceed to consider. That is,

4th, The second incision.—When the first incision has been made as I have directed, no difficulty will be found in reaching the face of the prostate gland and membranous portion of the urethra,—the forefinger of the left hand directed upwards and backwards, under, and in behind the bulb, will answer all useful purposes for dissection,—the transverse perineal muscle at its point of union, and a sufficiency of the *levator ani* have been cut, and cellular tissue only remains between the operator and the parts he has secondly to penetrate. It is worse than useless, therefore, to play with an edge tool in a deep wound where its presence is not required. The prostate reached, the staff, as it lies in the membranous portion of the urethra, has to be felt for; and here I must warn the beginner not to expect to feel the staff very distinctly,—the word membranous deceives such, and they are not at first prepared for what they will always find, viz. a thick firm substance surrounding the urethra, through which they have to cut before reaching the urethra or staff. The knife with which the operation was commenced is inserted in the manner shown in Plate 2, at the end of this Number, as close to the apex of the prostate as possible, a small slit is made sufficient to admit with ease the end of the probe-pointed bistoury,—the knife being laid aside, the narrow blade of the bistoury laid well into the groove of the staff is slipped along into the bladder; the point is then fixed in the groove, and the handle moved outwards and downwards to a moderate extent, so as to insure the *sphincter vesicæ*, prostatic urethra, and a small portion of the prostate gland being cut. (A little urine usually flows at this stage.) The gut is in no danger, as the bistoury has no cutting edge but close at the point, and that portion is at this moment wholly within the prostatic urethra and bladder. Keeping the gut, however, out of the way with two fingers of the left hand, I usually, in withdrawing the bistoury, bring it out of the prostate, and take a sweep along the lower angle of the wound out to the very skin, so that not a fibre can afterwards interrupt either the stone, or the urine in its escape subsequently—laying down the bistoury I take up the gorget, and having lodged its round probe beak in the groove of the staff, I pass it onwards into the bladder, neither with force nor in haste, but by a firm and steady movement, guarding against the possibility of a plunge—the tearing edge directed downwards and outwards, exactly in the line of the external incision, and consequently, forming a direct continuation of the incision begun in the prostate by the bistoury. (At this stage the bladder empties itself of urine by a gush along the hollow of the gorget.) In this way the incision can, if need be, be carried to the very verge of the prostate, without any risk of the wound extending beyond that gland, the structure of that organ, so different from the tissues composing the coats of the bladder, rendering it an easy matter to tear cleanly the former with an instrument, and a force that only dilates the latter. In this very way Cheselden entered the bladder, but his gorget or conductor, as he called it, was wholly blunt; and it was alleged that he often entered the bladder with it by simply but rapidly dilating the prostatic urethra, which of course occasioned difficulty and hindrance in getting out any but small sized stones. This led Sir Cæsar Hawkins, at an after period, to put a cutting edge on Cheselden's conductor, to insure a positive division of the prostate gland. We have authentic records to prove that, although Sir Cæsar Hawkins succeeded well with his cutting gorget, yet his success cannot compare with that of Cheselden; while in the hands of Hawkins' disciples the cutting gorget has proved so fatal a weapon as at length to have caused it to be almost banished from English surgery. I have looked in vain for any approach to the success of Cheselden since his time, until I find Mr Martineau at the Norwich *Hospital* again effecting his entry into the bladder with Cheselden's blunt gorget, and immediately recoveries multiply, and deaths diminish, until an approximation to his average of mortality is made. The same success continues in the same institution, resulting from the same cause, in the hands of Martineau's successor, Mr Dalrymple; and I do not remember a fault having been found to their practice, but that at times, as in the case of Cheselden, doubt existed whether the neck of the bladder was incised or not. Another eminent surgeon has laid the result of his experience before the profession, I mean Mr Liston, whose success has been very great; and seeing that as yet he has not used the blunt gorget, his explicit avowal of the principles by which he has accomplished so many cures, tends powerfully to strengthen the conclusion which Cheselden's experience alone might long since have taught the whole world,—that a small incision into the bladder is sufficient, in all ordinary cases, for the removal of stone; and that in no case is it safe or advisable to let the second incision extend beyond the base of the prostate; and that the success of all the most fortunate lithotomists has depended upon the narrow limit to which they restricted themselves in dividing the neck of the bladder.

With these ideas in my head, it occurred to me to use a gorget neither blunt nor sharp—an edge on it that behoved to cut through a substance so solid as the prostate gland, yet so blunt that such a tough elastic membrane as the bladder would stretch upon its edge; and this I found of easy accomplishment. I have several times finished the whole incisions with the first knife, using no gorget when the perineum was unusually shallow, contenting myself, of course, with a very moderate incision into the prostate, and all did well; but in the great majority of the cases, the neck of the bladder and prostatic urethra were slit obliquely downwards and outwards to about half an inch, (see the black line of incision on the prostate in Plate 2), and then the incisions finished, as shown by the continuous dotted line, by the aid of the blunted gorget. Thus I insure a positive entrance into the bladder, obviating the chance of merely dilating the *sphincter vesicæ*, as Cheselden and Martineau are alleged to have often only done,—and thus I escape the risk of cutting parts that never should be cut in this operation. I have seen both the gorget and the knife, in old experienced hands, make a fatal wound in the fundus of the bladder; but that is next to impossible with the gorget I recommend.

The number and variety of modes and instruments employed by different surgeons sufficiently proves the apprehensions felt at this stage of the operation, and no doubt the hazard is very great; yet to me it seems that the danger to the patient mainly arises from the neglect of the principle I am seeking to inculcate, and that even by those lithotomists who *speak* of a small second incision.

5th, But another advantage accrues from the use of the gorget,—it lies with safety in the bladder, and the staff being withdrawn, becomes the actual conductor of Cheselden, guiding the forceps without violence safely into the bladder,—a business not easy to the most expert in a deep perineum,—or if so, then the ease has been purchased by a deep incision, so free as will, in all probability, cost the patient his life. To all, therefore, the hollow of the gorget presents a fair channel along which to press the forceps till lodged in the bladder. To a beginner such a help is invaluable; only let me warn all beginners that their trust must not rest on mechanical appliances, but on a thorough knowledge of the anatomy of the parts concerned, a right apprehension of the principles that should control every step in the operation, and a calm collectedness of mind ready for any emergency. The staff is lodged in the urethra and bladder, that the operator may find a sure director into the latter when his dissection has brought him to the face of the prostate; let it, therefore, remain fixed in the mesial line, pressed against the *symphysis pubis* during the whole operation, and then he knows where to find it, just where by nature the urethra runs. The advice given by some writers, to make the assistant meet the knife by pressing the convexity of the staff against the left side of the perineum, is, to say the least of it, injudicious; it occasions a risk of the point of the staff escaping from the bladder; it alters the natural position of parts, and limits the space into which the operator has to cut, pushing his incision towards the ramus of the ischium, under the edge of which the pudic artery runs, the nearer to which that the lesser arteries are cut the more energetically will they bleed; and, *lastly*, the parts are thereby so pressed down upon the rectum as to endanger it at the very first cut.

Then, again, the blunt gorget is supplied, not as a substitute for anatomical knowledge, but as an instrument capable of opening the neck of the bladder just as far as safety admits, (that is, as far as the prostate gland extends,) and quite as far as sound principle requires, seeing that the elasticity of the coats of the bladder is sufficient to allow of the easy escape of any fair average-sized stone, after that gland and the sphincter of the bladder have been divided. Surely much need not be said to satisfy any surgeon that one is quite safe to draw upon the elasticity of the coats of the *living* bladder to allow of the escape of a large stone through a comparatively small opening; the prostate might be injured and shattered by great dilatation; no elastic quality resides in it; but it is essential to the very function of the bladder that it shall dilate and contract—at one time reduced to the size of an egg, and in six hours expanded to the size of a human head—and again, in half a minute, by the power of the will, down to two and a half inches in diameter. What difficulty can there be in obtaining for a minute or two the expansion of a small wound in such a membrane, freed of the girding effect of an uncut prostate, to allow of the escape of even a large foreign body, forcibly withdrawn in the grasp of a forceps, whose blades, smooth on the back, come out possessed of all the powers of the wedge; and why, then, incur the fatal risk by extending the incision beyond the base of the prostate, of laying open the pelvis to the ingress of urine, by wounding the ileo-vesical fascia, when you not only have this elasticity in the coats of the bladder to draw upon, but actually do draw upon in every case where the stone reaches an average size, one and three quarters, by one, and by one and a quarter inches in diameter? Enclose such a stone in the blades of a forceps and then say if a lineal wound of even three inches long will admit of its exit without considerable expansion—and who among the advocates for free incision is prepared for such cutting, all to give transit to a foreign body occupying half a minute in its progress, and the opening then having to be healed up? I would only add, before closing this section, that much fallacy has been introduced into this question by parties experimenting on the dead body, and then applying their conclusions to the living—forgetful all the time that the power of a living muscle, whether in resisting or sustaining, is to a dead muscle as 1000 to 1;—in truth, they can form no fit subject of comparison.

6th, Trusting, as I do, so much to the dilatability of the coats of the bladder for affording a safe exit to the stone, it will at once be seen that some caution is required in its extraction, and I come, therefore, in the sixth place, to say a few words on that subject. It has often struck me on witnessing lithotomy, that there was little or no system or fixed principle ruling the surgeon in this stage of the operation. When searching for the stone, it seemed only a succession of ineffective glamps with the forceps,—when extracting, a succession of violent pulls, equally ineffectual for the attainment of the end desired. With the closed forceps let the stone be searched for—felt; let the closed blades on their flat side be pressed down on one side of the calculus to below its convexity, then fixing the lower blade in that position, with reference to the stone, let the handle of the upper blade drop, if need be, pressed down, until the blade is raised quite above the level of the stone, when it only requires a semi-rotation of the instrument, the lower blade still occupying the fixed point, and the stone is at once enclosed in its embrace. This, for stones of average size and upwards; small stones may lodge, where the prostate gland is large, in the hollow behind it, or where the person is pot-bellied, it may be shelved above the *symphysis pubis;* in either case, the stone may be easily found by a forceps slightly curved. Where too much water has been in the bladder at the time of operation, the circular fibres may contract, and enclose the stone in the very fundus of the bladder. This difficulty is to be detected and overcome by the steady progress of a straight moderate-sized forceps, onwards till it reach the stone. I have seen the forceps go to a great depth in such a case, and nothing wrong but this longitudinal elongation I speak of.

The stone fitly seized in the smallest diameter, the dilatation of the wound begins in earnest, by a firm but steady downward extracting power, gently moving the handles from side to side, a little upwards and a good way downwards, from time to time allowing intervals of rest to the parts, and to the operator's own hand, but never for a moment relaxing the grasp of the stone itself. It is annoying to have to witness the necessity of going again and again to poke about the bladder, the stone having been once fairly and firmly caught. Having rested, the power must be again applied, coolly, calmly, firmly bearing down, exactly as an accoucheur does when delivering a fœtal head with the forceps. Proceeding thus, a very few minutes suffice to complete the delivery; the stretched fibres speedily retract, and a comparatively small wound only remains to be healed, and that entirely surrounded and supported by the prostate gland, which must favour its closing up.

7th, The accidents at all likely to occur in the performance of this operation are, 1*st*, bruising of the soft parts; 2*d*, hæmorrhage; and, 3*d*, wounding the rectum; a 4*th*, usually enumerated in this class, viz. infiltration of urine, may, I think in future, be excluded from the category.

1. When the stone is very large the risk of bruising during the extraction is very great, and the after-consequence, in aged subjects, is very commonly death, from extensive suppuration within the pelvis, should the patient not have sunk during the inflammatory stage; yet much can be accomplished by patience and a low outlet without free cutting. I am prepared, should any marked hindrance offer, to use the blades of the forceps as a director while extracting, and with a probe-pointed bistoury notch the right side of the prostate gland, and so get a more free passage for the stone. This plan I would recommend in preference to breaking down the stone, which is a proceeding, fond as I am of lithotrity, which I cannot approve of. The positive injury inflicted in passing so often to and from the bladder with angular fragments, and the risk, almost amounting to certainty, of some fragments remaining in the loose folds of an empty bladder to form nuclei for future stones, ought, in my opinion, to discourage such a proposition. If so large, that the dilating quality of the bladder, with both sides of the prostate cut, is not likely to admit of the passage of the stone, then the high operation would form an infinitely preferable mode of giving it an easy and a safe escape, and should be selected.

2. Hæmorrhage I always view with apprehension. A state of depression happens after this operation in almost every case, which I find much aggravated by even what is called a moderate, by some an advantageous hæmorrhage. It may be because I bring none to the table in a state to require depletion; but be that as it may, when the *transversalis perinei* artery bleeds with any vigour, I invariably lay down the knife, and with a tenaculum, or the spring forceps, take up and tie the bleeding vessel. I never operate against time; my sole object is to save my patient's life, and this proceeding has therefore everything to recommend it. The vessel is at the moment easily seen and secured; not so in a little after, when the parts get infiltrated with blood. The after-steps of the operation are carried through calmly, as no continuing hæmorrhage hurries you—the urine comes away afterwards clear at a more early period, much to the relief of the surgeon; and the patient's strength is husbanded. Should the artery of the bulb be cut, there presents only an additional reason for instantly adopting measures for effectually suppressing the flow of blood. I have elsewhere in this paper shown how it may be easily commanded. I have succeeded, by the pressure of sponge plugs dipped in tincture of benzoin, urrounding a tube, and pressed in between the rami of the pubis. The case ecovered, but the hook is more to be depended on. Better far, however, to cut low and escape such a casualty.

3. I will not deny that the operation I advocate does endanger the rectum; but I must say, with ordinary care injury to it is not likely to happen. The first incision only requires depth at its upper angle, for about one-third of

its length; the remaining two-thirds ought to shallow rapidly, requiring little more than the integument to be cut, as the tissues beneath are elastic in a high degree, and yield readily during the extraction of the stone. I am quite convinced that the rami of the pubis have most commonly been the cause of the many desperate struggles we have heard of and seen in the extraction of calculi. There seems to be an unusual fear in the minds of some surgeons at the idea of wounding the rectum, with which I cannot sympathize. How often do we all cut it up, one, two, or three inches, for the cure of *fistula in ano*, and far from harm happening, it turns out one of the most successful and satisfactory of surgical operations. Once, in extracting a large angular fragment of a stone which had fractured in the grasp of the forceps, a small wound was made in the side of the gut, and twice a notch was made with the knife. In the first instance, before closing the operation, I divided the *sphincter ani* as if for fistula, cutting through from the nearest point at the upper angle of the wound. By this proceeding, I left so little tissue to close in upon the urethra, that it gave me much after annoyance, and taught me what I earnestly recommend to others, to cut the sphincter through at the lowest point of the anus, and then push the lateral flap up into the gut to cover in the membranous portion of the urethra. The result will prove quite satisfactory. The above case strongly illustrated to me the ground of objection to the recto-vesical operation—an operation which, I am certain, might be practised with great safety to life, could the suggestion I have offered with equal certainty ensure after comfort. But again, I would say, the question is needless if the low lateral incision is adopted.

4. As I have before said, fatal infiltration of urine arises in every instance from the deep incision extending beyond the base of the prostate gland, and penetrating the fascia that passes from the sides of the pelvis on to the bladder at the boundary line of the gland. Once past this defence, and the urine comes in contact with the peritoneum—the necessary consequence of which is death—less from pure peritoneal inflammation, judging from all the cases I have seen, than from the poisonous absorption of urine. I can conceive infiltration of the cellular tissue along the wound, of a very troublesome, but far less disastrous character, from the *lips* of the wound having been allowed to close before lymph had sealed up the divided cells, to guard against which I invariably keep a flexible tube in the bladder until from thirty to fifty hours after the operation, according to the age of the patient; but the occurrence I refer to as the most fruitful source of mortality in this operation cannot be mistaken. The patient goes on well until twenty-four hours after the operation, and the pulse natural, when the urine becomes less copious—the tongue becomes dry—the belly rather full and uneasy, and the bowels flatulent. Four hours more and the patient's countenance has assumed a pinched anxious look; his pulse up to 100; his manner is hurried; he wanders in his ideas; at thirty hours his pulse is 120; his belly tumid and tense; urine scanty, almost suppressed; skin covered with a clammy sweat; tongue dry as a board; even *local* depletion will close the scene at the end of thirty-six hours. If cordials are administered, the feeble and delirious struggle may be protracted till fifty-two hours shall have elapsed from the time of the operation; but a cure, after this train of symptoms is kindled, I have never seen, and no one can see in them any affinity to what offers in peritonitis. It is clear to me that a poisonous fluid has got where it never ought to be, and to guard against the risk incurred by the use of cutting instruments at such depth, and in the immediate proximity of such, though unseen, dangerous boundaries, I entreat surgeons to lay aside knives, cutting gorgets, and lithotomes, and fall back on the safe, sufficient, and successful mode and instruments suggested and used by Cheselden, as now laid down in this paper.

Rude violence and unnecessary haste in extracting a large stone might, no doubt, tear the bladder far enough to allow of the infiltration I have just been describing, but such an abuse of power would only prove the operator to be wholly ignorant of the very first principle upon which the suggested plan of operation is based, and could in no way weaken the force of the evidence I adduce to prove, that surely there is a fixedness and a soundness of principle in the practice that has led to such an unusual exemption from mortality, at the very age at which the ratio of mortality is the highest, by all the other modes of operation at present in use.

8th, On the Treatment after the Operation.—Much of the personal comfort of the patient during the after-treatment will depend upon the unceasing attention of two experienced nurses; but his safety and progress rest, under God, on the surgeon's skill and care. For six hours after the operation the surgeon should never be above an hour at one time absent from the bedside,—noticing the tube to keep it pervious, the quantity and the colour of the urine,—and resting satisfied on the head of hæmorrhage only when the urine flows clearly as well as copiously. These two points gained, his visits may then be dispensed with for intervals of four hours, until the thirtieth hour has passed. That hour come and gone without constitutional sympathy, and all danger from infiltration of urine is past, the tube may be safely withdrawn, although in old subjects some hours later may be preferable, to give time for lymph to be poured out and consolidated; and now the visits need only be repeated every six hours. This, I think, should be continued for a week; it enables the surgeon to keep every thing right, which is easier and safer than having to set them right; it affords opportunity for cheering the patient on, also, a matter of no light moment, the tendency to despond after this operation being very great. This it might be easy to account for; so great has the mortality been after this operation, that the great majority of persons labouring under stone will never entertain the question of operation until death itself begins, from protracted suffering, to stare them in the face. They then begin to reason, that die they must, and if so, better choose the easiest, because the shortest path. Their settlements are very generally the last document they sign before coming to the operating table; and is it any wonder that it is sometimes even difficult to convince them that they will recover, after danger has entirely passed? For this reason all condoling friends should be shut out for days after an operation. I have seen them occasion infinite harm, and bring on nervous symptoms very annoying, if not alarming. Let the surgeon himself minister to the mind as well as prescribe for the body; and while he rests on the blessing of God for success in the case, let him watch and strive as if the cure depended on his unaided efforts. Unless surgeons are in a sense determined not to lose a case, they will find it an easy matter to let one slip through their fingers during the after treatment. It is the known prevalence of this feeling of despondency that has hitherto discouraged the practice of operating on more than one case at or about the same time, lest, should one die from the operation, the other should sink from apprehension afterwards. I would not treat lightly the fear of harm happening, but only suggest that, in hospital practice, there are good and cogent reasons why the fear should be disregarded. The surgeon, when nerved for such an operation, feels more ease at a second, and still more freedom at a third following in rapid succession. The parts are bright in his mind's eye, and his hand is in the way of it, and all this the patient gets the benefit of. Then two nurses can as easily attend to three in the same ward, or in adjoining closets, as to one; and again, the surgeon's frequent calls are well requited by the feeling that so much good is being accomplished. I have repeatedly had two, and lately had three in one day, and found no inconvenience result; but, mercifully, no casualty occurred in any of the instances. I can testify that the last operation is always best done, if degrees of comparison can be said to exist where all recovered well, which is what I hold as the only evidence of a well-performed operation.

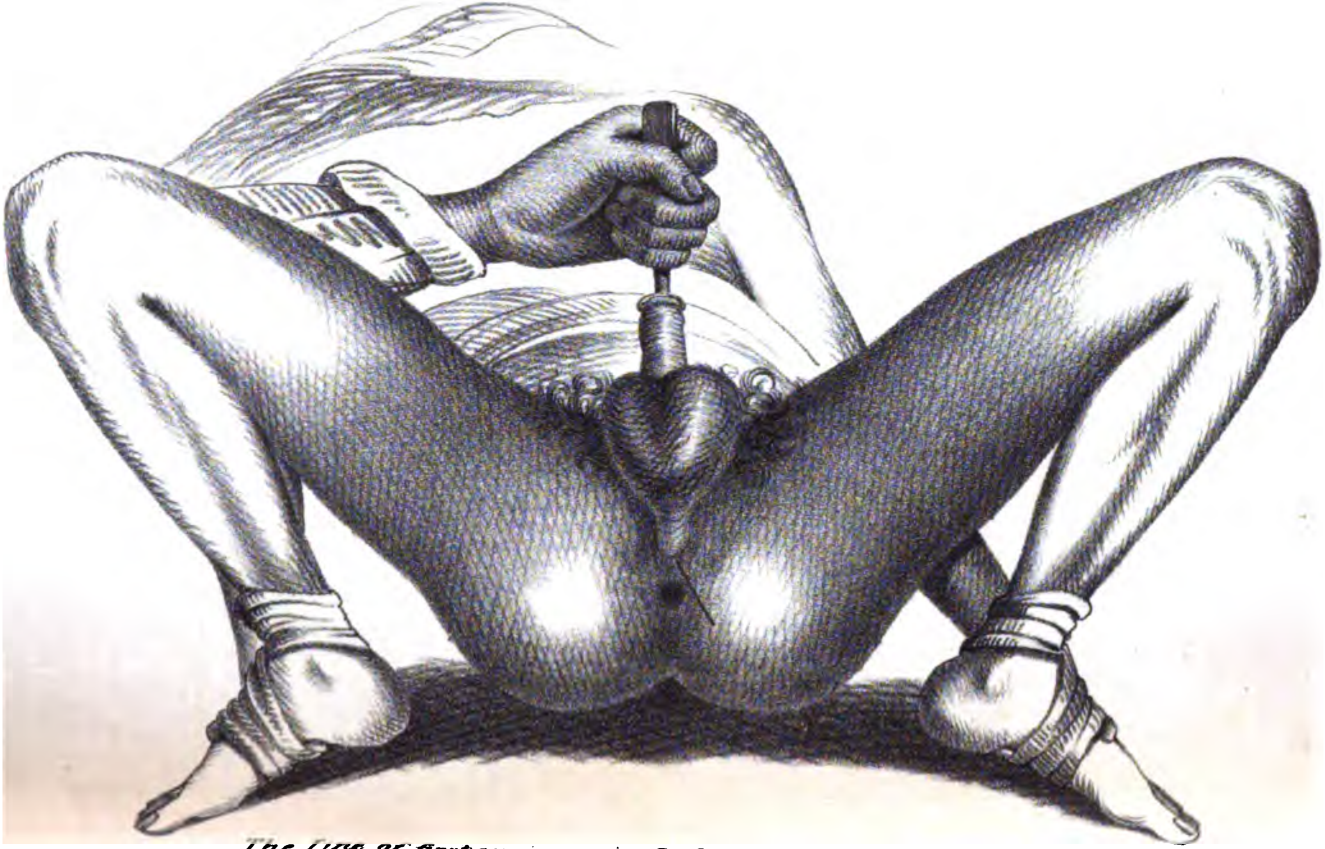
From the total silence on the subject in most practical works, a beginner must often conclude that, the operation safely accomplished, there is little more to do; but this is a great mistake. In old or feeble subjects the struggle for life only then begins. No doubt, in the young and vigorous, mild diet, a frequent change of the drawing sheet, to keep the bed dry, and an occasional laxative, is all that is required, and in from fourteen to twenty-one days they are going about sound and well. But in those more advanced in life, a diligent watch must be kept on the state of the secretions, the tongue kept clean—often a difficult matter:—soups must be allowed from the hour of operation, wine and animal food allowed from the third day, and the former with such liberality as the patient can bear. In George Gray's case, (see table of particulars in the 39th Number of this Journal, already referred to,) recovery took thirty-four days, during which time the average allowance of port wine he had was eight ounces daily. His age is 73, and it is not a week since I heard of him driving his horse and cart, and sharing in all the farm-work. I am not here advocating the use of wine in every case,—the feeble only require it; but I do advocate the adoption of more generous treatment as to diet, after this and most other major operations, and the utterly discarding of that bugbear the fear of inflammation, which has occasioned so many to be starved out of existence. If it arise, treat it, and withhold the supplies then; but, while there exists a call upon the constitution to heal up a great wound, let no idle, and so generally groundless fear, induce the surgeon to keep the balance of life trembling, from sheer want of food. Much discomfort will be escaped from, if careful nursing, the use of spirit lotion, and plenty of prepared lard, can keep the nates from excoriating. I have kept a note of how many folded sheets required to be drawn every twenty-four hours, in a number of cases, so as to insure ordinary and reasonable comfort to the patient. During each of the first eight days after operation, eight large sheets are daily requisite.

It is during the convalescence, that I see most clearly the advantage of previous preparation. The patient is in good health, has a fair appetite, and is nourished by what he takes. I ascribe the recovery of several of my old men entirely to the care bestowed on their previous treatment. No art could have carried them through, applied in any other way.

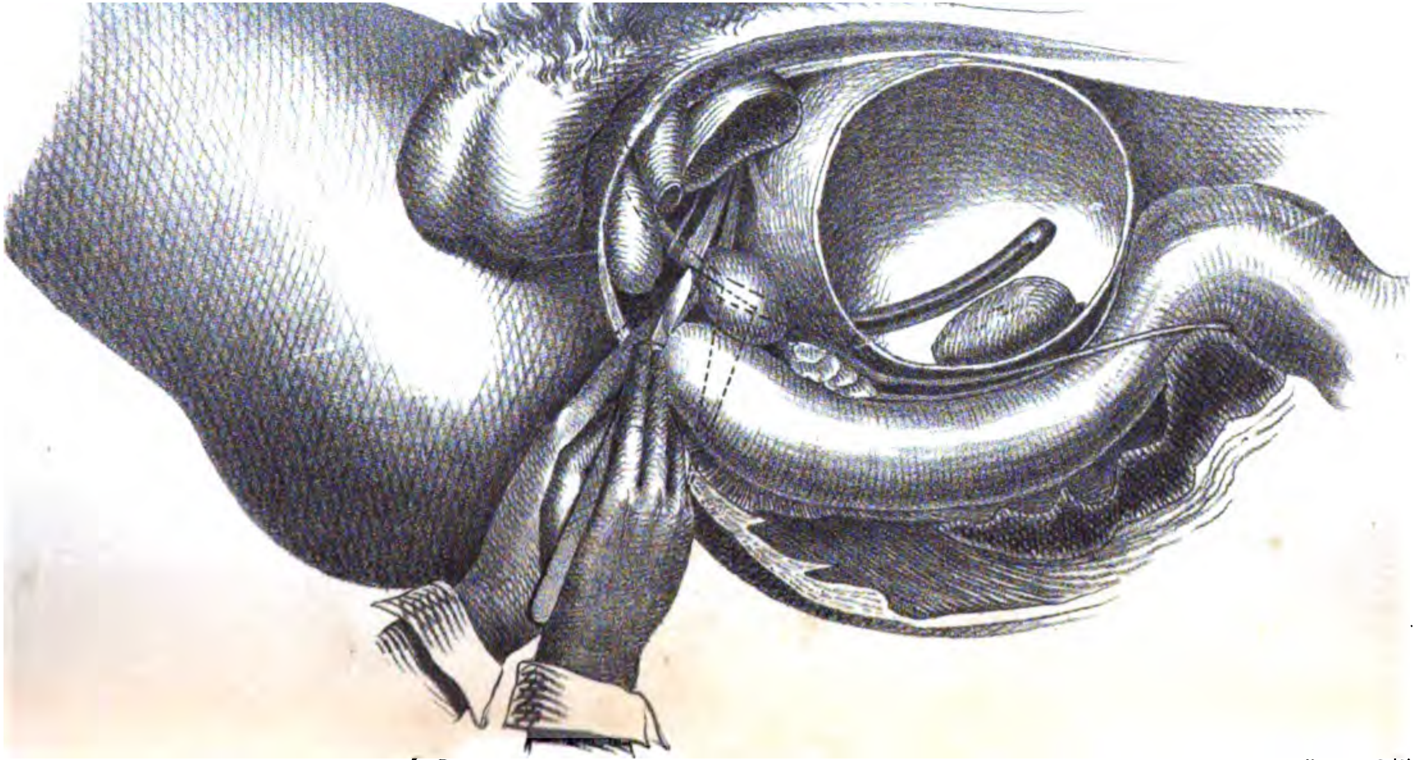
I think I have now freely communicated my views on my practice, and the principles that guide me in the performance of lithotomy. To sum up:—

The patient should be previously brought into the best possible state of health; tongue clean, and urine as nearly natural as may be; the nates clean shaved; a dose of castor oil administered on the evening prior to the day of operation; an enema on the morning of that day; and only the accumulation of thirty minutes' secretion of urine in the bladder; prepare the patient for the operating table.

A large curved staff, with a deep groove on its right lateral aspect, is then to be introduced into the bladder and the stone felt. The feet and hands to be then firmly secured to each other. The nates brought just over the edge of a table, thirty inches high. The knees steadied by two assistants, but not tied by a tape passing over the nape of the neck. The staff held by the third and chief assistant, from the commencement to the close, firmly in the centre line of the perineum, fixedly against the *symphysis pubis*, and fairly into the bladder, care being taken that no movement of the patient, and no dropping of the assistant's hand, shall occasion its withdrawal from that viscus until an entry has been effected. The operator *seated* on a low stool from the time he begins to cut, until he is ready to *extract* the stone. The external incision to commence at the raphé one inch anterior to the anus, to pass outwards and backwards midway between the anus and left *tuber ischii* to the extent of three inches or more from the point of commencement, according to the probable size of the calculus, previously ascertained. The wound deep at its upper angle, only to be carried on with the finger, almost unaided by the knife, fairly below, and then in behind the bulb of the urethra, until the face of the prostate gland and membranous portion of the urethra are felt; the knife is made to enter the groove of the staff in the latter, and just notch the apex of the gland; this opening is enlarged, continued onwards to the bladder, the *sphincter vesicæ* and prostatic urethra cut in a direction outwards and downwards, by means of the narrow-bladed probe-pointed bistoury. The blunt gorget carries this incision to the very base of the prostate, if that should be required. The forceps, easily and safely introduced along the hollow of the gorget, is then made to embrace the stone, as formerly directed, and becomes a safe and efficient dilator of the coats of the bladder during the extraction of the stone. There are few operations to which the adage, *Festina lente*, does not apply. To lithotomy it is especially suitable, and to this stage of it



The Line of first incision in Lithotomy as practised by Dr Keith



The Lateral operation of Lithotomy as practised by Dr Keith.

Henderson lith. Abdn

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PLATE

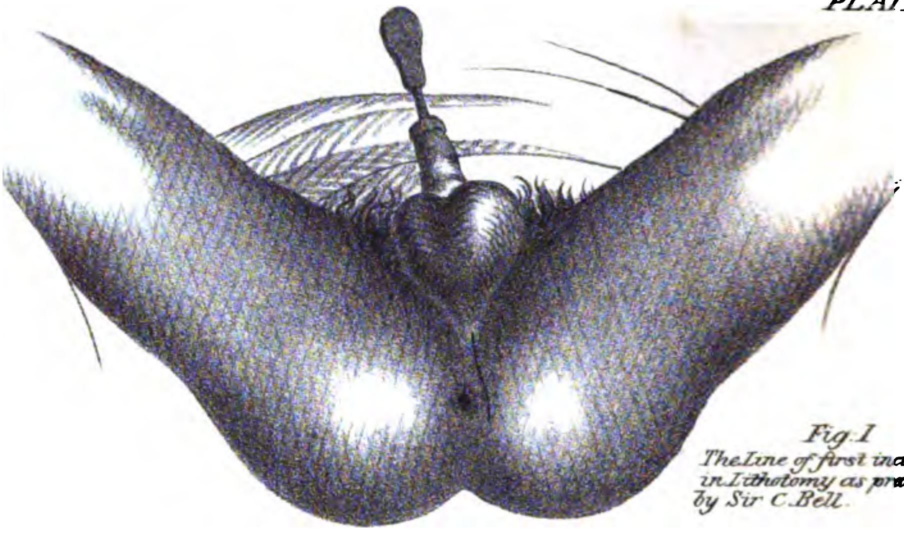


Fig. I

The Line of first incisi
in Lithotomy as practis
by Sir C. Bell.

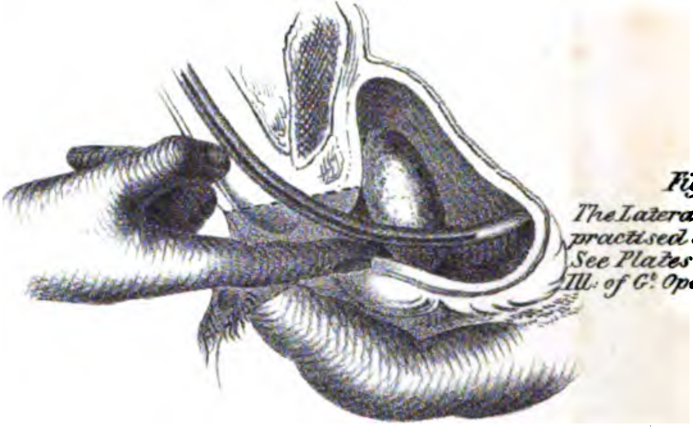


Fig: 2.

The Lateral operation
practised by Sir C. Bel
See Plates 18 & 19 of B
Ill: of Gl. Operations 18

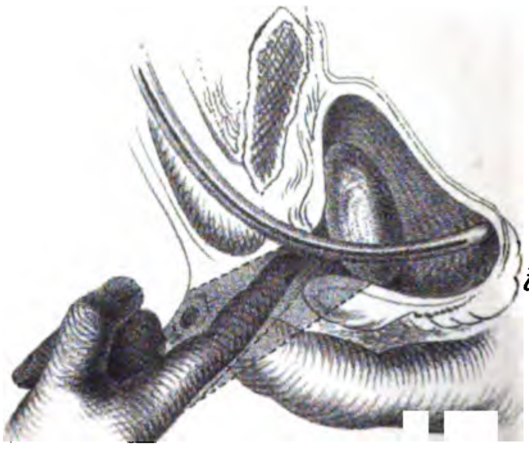
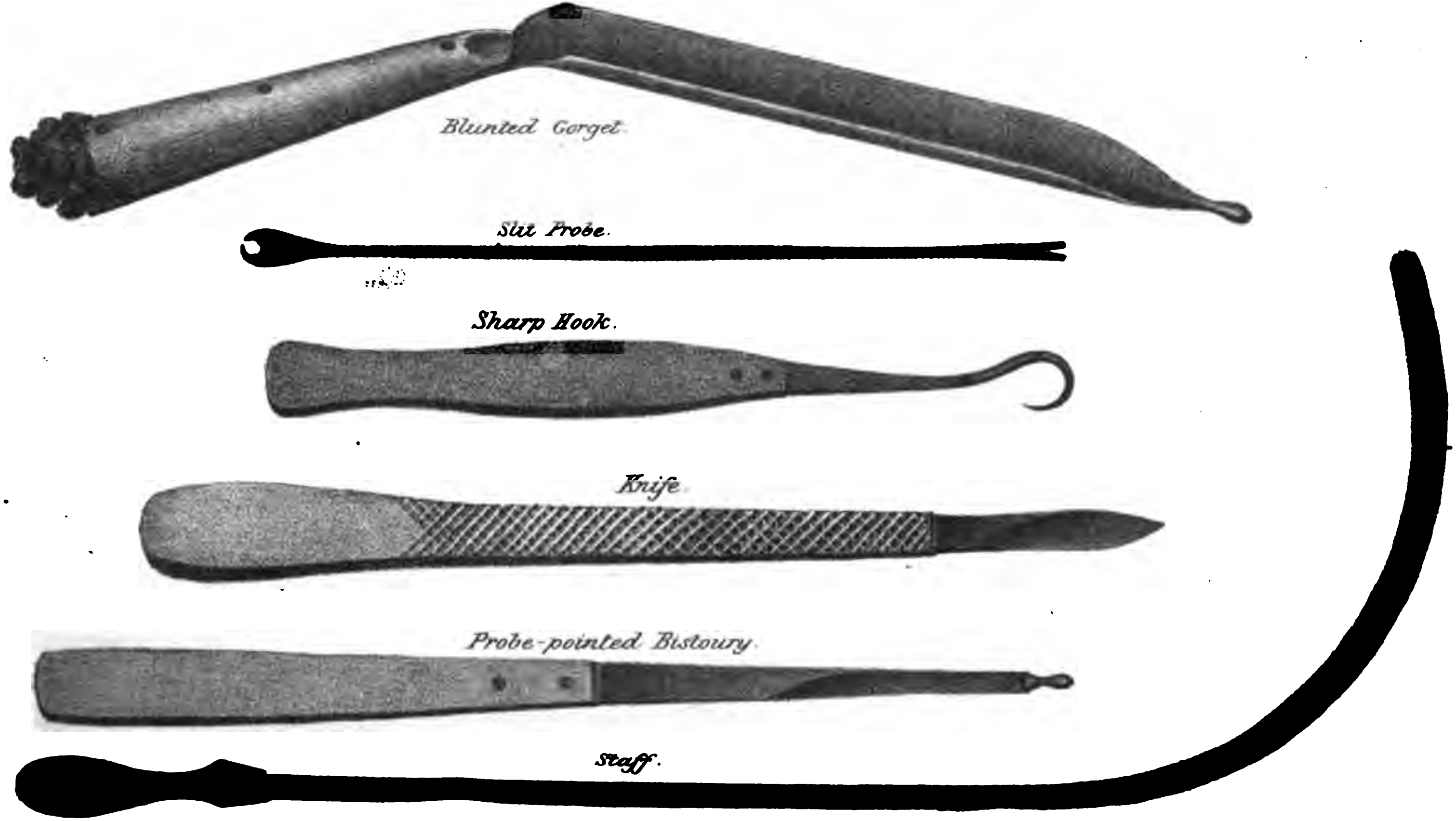


Fig: 3

The same, with Dr. Keit
lines of incision show

PLATE IV

The Instruments used by Dr. Keith in performing Lithotomy.


Blunted Gorget.
Slit Probe.
Sharp Hook.
Knife.
Probe-pointed Bistoury.
Staff.

peculiarly so. "Make haste slowly" should be ringing constantly in the surgeon's ear.

One other principle that has exercised great influence over my success I must announce before closing. Believing, as I firmly do, that the issues of life are wholly in God's hands, I never fail urgently to implore his presence and blessing on every operation. From my bended knees I approach the operating table, the immediate effects of which is to impart to me a calmness that nothing can ruffle, a self-possession that has never been disconcerted—(and occurrences have happened that might have embarrassed any one)—a steadiness of hand, and fertility of resource, that I thankfully acknowledge as gifts from God, while the final results have come out only such as could issue when the blessing of the Almighty descends.

Explanation of the Plates.

Plate I shows my ordinary line of first incision in lithotomy, and the manner in which the staff ought to be held.

Plate II represents a section of the pelvis, showing the anatomy of the parts concerned in lithotomy, copied in great part from Watt's views of the pelvis. Into this sketch, I throw the lines of incision which I practise. The black line at the apex of the prostate shows all that is cut both by knife and bistoury; the dotted continuation indicates what is accomplished by the blunt gorget. Altogether it correctly conveys my ideas of what the lateral operations should be, in the position, direction, and extent of both the external and internal incisions.

Plate III, Fig. 1, shows a correct copy from Bell's *Illustrations of the Great Operations in Surgery*, Plate 18, giving his line of first incision.

Fig. 2 shows, from the same author, his own view of his own lateral operation. The incision mainly in front of the anus, traversing the bulb of the urethra, passing close under the *symphysis pubis*, and reaching the bladder some way above the level of the natural entrance into that organ by the prostatic urethra.

Fig. 3. Taking the same view of the anatomy of the parts, I portray the lines of incision I recommend, showing their bearing to the anus, being chiefly behind it, to the bulb of the urethra, being quite below it, to the *symphysis pubis*, being as far from it as possible, and to the prostate gland commencing with the prostatic urethra, the incision is then wholly confined within the limits of that gland.

Plate IV showing the instruments, speaks pretty plainly for itself.—Abridged by the author from *Edin. Med. and Surgical Journal*, April 1844.

OBSERVATIONS ON THE VENEREAL DISEASE, WITH NUMEROUS CASES.

By THOMAS SPENCE, M.D., Staff Surgeon of the First Class.

Amidst the varied improvements which have marked the progress of medical science during the present century, no one has conferred greater benefit upon mankind, than that which has led to more safe and less empirical principles in the treatment of the venereal disease. So far has this influence extended, that many practitioners are led to believe in a change of its specific nature, in its virulence being diminished, and that, howsoever it may be treated, the frightful fects of former days are no longer to be expected; be this as it may, the number of martyrs are now comparatively few, and the miserable and disgusting objects which were formerly common, even in the more respectable classes of society, are now but rarely seen; this change, however, may I think with greater propriety be ascribed to the more cautious administration of mercurials; for in this respect all men are now careful, and some there are who abstain entirely from the internal use of mercury for primary syphilis. It has however appeared, that the profession is still in want of facts, whereby in this important particular more precision may yet be attained; and this, from the peculiar circumstances of the service, the military surgeon is in a condition to afford, so that I do not hesitate to make public, through the medium of the *Montreal Medical Gazette*, the result of my practice in the venereal disease, during the time I had the honour to serve in the 52d Light Infantry. At this moment a document is before me, in which are entered the name of the patient, description of disease, means of treatment, and number of days in hospital, of every case of ulcer on the genitals, occurring in nine years, with a continuous space for corresponding observations on the occasion of secondary disease, and in this way 367 cases are recorded, all of which have been treated strictly without mercury, and secondary disease has occurred in 21 cases only, the particulars of which are here detailed.

Name.	Date.	Primary Disease.	Treatment.	No. of Days in Hospital.	Date of Secondary Disease.
W. P.	Dec. 7, 1831.	Foul ulcer near the frœnum, with excoriation of the glans, and swelling of the prepuce.	Poultices, black wash, aperients.	8	Jan. 31, 1832.
C. W.	Jan. 18, 1832.	Foul ulcer near the frœnum.	Caustic, blue stone, and aperients.	22	Mar. 22.
M. S.	Oct. 20.	Simple sore without any inflammation.	Black wash, blue stone, and aperients.	20	Aug. 9, 1833.
D. D.	Nov. 17.	Foul sore on the prepuce, near the corona glandis.	Caustic, black wash, and aperients.	22	Dec. 22, 1833.
J. M'C.	Dec. 12.	A deep sore on the extremity of the glans, and another behind the corona glandis.	Caustic, black wash, and aperients.	29	Jan. 18, 1833.
P. P.	Jan. 12, 1833.	Sore on the corona glandis.	Black wash, caustic, and aperients.	16	April 14.
L. H.	July 27.	Foul spreading ulcers at the root of the penis and scrotum.	Caustic, black wash, poultices, and aperients.	42	Jan. 23, 1834.
M. M'D.	Nov. 9.	Foul sore on the prepuce.	Caustic, black wash, and aperients.	46	Jan. 23.
C. E.	Sept. 11.	A large sore on the body of the penis.	Poultices, black wash, and aperients.	20	May 6.
W. W.	June 1, 1834.	A small circular foul sore on the penis.	Caustic, black wash, and aperients.	15	Aug. 11.
C. M'C.	May 11, 1834.	Swelling of the prepuce; copious purulent discharge; two foul sores behind the corona glandis.	Cold lotions, caustic, black wash, and aperients.	19	...
...	...	...	...	...	May 30, 1835.
G. G.	Oct. 9.	Foul sore behind the corona glandis.	Caustic, black wash, and aperients.	18	Nov. 5.
J. R.	July 20.	Deep foul ulcer behind the corona glandis, with hard edges.	Poultices, caustic, black wash, and aperients.	24	Aug. 23.
J. G.	Sept. 12, 1833.	Foul elevated sore near the frœnum, with tendency to slough.	Caustic, black wash, and poultices.	13	April 21, 1834.
D.	Nov. 5.	Not described.	Black wash and aperients.	27	July 29.
W. W.	July 26, 1833.	Deep foul sore at the extremity of the urethra.	Caustic, black wash, and aperients.	24	Sept. 5.
W. B.	Feb. 7.	Superficial sore on prepuce, and another behind the corona glandis, with hard edges.	Caustic, black wash, and aperients.	16	April.
G.	April 12.	Foul sore near the frœnum, not deep but spreading.	Aperients, black wash, and poultices.	...	May 19.
J. B.	Sept. 22, 1833.	Phymosis, with swelling of the prepuce, and extensive ulceration of the penis, and suppurating bubo.	Poultices, caustic, blue stone, black wash, dilute nitric acid, and aperients.	37	Nov. 22.
J. B.	Sept. 25, 1834.	Extensive sloughing ulceration of penis.	Calomel sprinkled on the sore, which affected the system, black wash, poultices, and aperients.	41	...

Description of Secondary Disease.	Treatment.	No. of Days in Hospital.	General Observations.
Sore throat and papular eruption.	Sarsaparilla and aperients, with bark and acid gargles.	16	In good health till 1834, when he died of cholera.
Iritis of both eyes.	Mercury to ptyalism, blisters and belladonna.	54	Once in hospital since, with fever.
Foul spreading ulcer of the pharynx.	Sarsaparilla, nitro-muriatic acid, baths, and mercurial fumigations.	143	This man having always been very unhealthy was discharged the service.
Iritis, pains, sore throat, and papular eruption.	Mercury to ptyalism, and sarsaparilla, with belladonna.	165	Good health since.
Iritis, sore throat, pains in the limbs, rupia prominens.	Mercury, nitro-muriatic acid, baths, sarsaparilla, and belladonna.	48	Health good, but one testicle become enlarged.
Pain in the knees and shins, papular eruption.	Sarsaparilla.	50	Health good since.
Foul deep ulceration of the throat, with purple blotches on the face.	Mercurial fumigations, gargles, blue pills, and sarsaparilla.	41	Good health since.
Pain in the joints, papular eruption. Iritis.	Mercury, sarsaparilla, blisters, and belladonna.	70	Once in hospital since, with fever.
Foul spreading ulcer of the fauces.	Blue pill, nitro-muriatic acid, gargles, sarsaparilla, and fumigations.	65	Good health since.
Pain in the shoulders and knees, papular eruption.	Sarsaparilla, nitro-muriatic acid, baths.	48	Good health since.
Not known.	Mercury to ptyalism.	...	Treated on detachment.
Pains in the shins, swelling of the legs, and blotches on the face.	Sarsaparilla, nitro-muriatic acid; foot baths.	60	Treated at head quarters; good health since.
Pains in the limbs, and papular eruption.	Sarsaparilla, and aperients.	15	Good health since.
Pains in the limbs; fever, followed by scrofulous swelling under the lower jaw.	Nitro-muriatic acid, baths, sudorifics, and sarsaparilla.	...	Under treatment when this return was completed, but eventually quite recovered.
Pains in the limbs, swelling of the tonsils, papular eruptions.	Alteratives, sarsaparilla, fumigations, and nitro-muriatic acid.	...	Discharged the service for scrofulous swelling in the neck, but eventually recovered.
Iritis of the left eye.	Mercury to ptyalism, belladonna, sarsaparilla.	39	Not in hospital since.
Pains and papular eruption.	Aperients and sarsaparilla.	33	Good health since.
Papular eruption, for which he took mercury whilst on detachment.	Sarsaparilla, at head qrs.	60	Recovery complete, was afterwards discharged the service in consequence of an injury to the tibia.
Sore not healed, has ulceration of the tonsils, and an eruption of a scabby character over the whole body, which falling off leaves ulcers.	Alteratives, sarsaparilla, nitro-muriatic acid, baths, gargles, and mercurial fumigations.	151	This man, being of very intemperate habits, received a blow on the head while drunk, which was followed by erysipelas, of which he died.
Pains, papular eruption.	Repeated courses of mercury, sarsaparilla, and nitric acid.	. .	Health so much impaired, as to unfit him for ordinary duty, but was employed as an orderly in the hospital until he was again affected with primary disease as below.
Whilst under treatment he became affected with pains in the knees and shins, rupia prominens, and a general break-up of the constitution.	Sarsaparilla, blue pills, nitro-muriatic acid, baths, anodynes, and sudorifics.	...	Discharged the service, and has since died: the immediate cause is not known.

Thus, then, according to the foregoing table, 1 case in 17 has been affected with secondary disease, and 3 individuals out of 367 have been so injured by the disease, as to be incapable of the duties of soldiers. A papular eruption occurred in 2, pains in the limbs in 9, iritis in 7, and ulcerated throat in 7. Mercury to ptyalism has been administered in 3 of these secondary cases, more particularly in those of inflammation of the iris, and alteratives with sarsaparilla and the nitro-muriatic acid baths in the remainder. From the same record of practice I am enabled to adduce another table of "Secondary Venereal Disease," occurring after ulcers on the genitals, treated with mercury elsewhere than in the regimental hospital, whereby it will appear, that the number of cases of constitutional disease is very great in proportion to the local affections, which may be presumed to have been treated, and the destruction to health and efficiency seems to have been equally great. This document, however, is in some degree incomplete, because in many of the cases we have no description of the primary sore.—*Montreal Medical Gazette*, 1st March 1844.

[We have not received the number of the *Montreal Med. Gazette*, which contains the rest of Dr Spence's valuable paper, but hope soon to procure it.]

MIDWIFERY.

Cases of Pelvic Inflammation, with Abscess, occurring after Delivery, with Remarks. By John C. W. Lever, M.D.

Dr Lever narrates nine highly interesting and instructive cases of pelvic abscess, occurring after delivery; our limits only permit us to give an outline of them, with the results.

Case 1. *Puerperal fever—Abscess opening into the vagina.*—This case was considered well in three weeks after the escape of the pus per vaginam. She has since been confined twice; the first labour was tedious from non-dilatability of the os uteri; the second was natural and quick.

Case 2. *Third confinement—Abscess opening into vagina—Phlegmasia dolens.*—After the discharge commenced, the patient began to recover, but its cessation was attended with pain, and all the symptoms and evidences of phlegmasia dolens appeared, first on the left, and afterwards on the right side; they were met with leeches and hot fomentations. She ultimately recovered perfectly.

Case 3. *Abscess opening externally on the left side.*—The patient had a rigor on the 13th day after labour, requiring version. In the course of a few days, decided fluctuation being detected about the insertion of the round ligament, an incision was made, and about 6 oz. of most fœtid pus evacuated. Her convalescence was protracted by two attacks of tenesmic diarrhœa. She has been since confined; the labour was natural and easy.

Case 4. *Abscess opening externally on the right side.*—In this case a rigor occurred on the day after delivery. A tumour gradually formed above Poupart's ligament which gave way; the abscess discharged four weeks; her recovery was complete.

Case 5. *Pelvic abscess on both sides; the right bursting into the vagina; the left punctured.*—On August 17 she was delivered, by the forceps, of a still-born male child, after a very lingering labour. At the end of three weeks she was attacked with violent pains in the loins and abdomen, which had continued for five weeks, when she sought admission into the hospital. While pressing, per vaginam, on a tumour on the right side of the canal, it gave way, and about 2 oz. of fœtid pus escaped. At the end of four days a second abscess presented at the upper and left side of the vagina, which was opened. After the evacuation of the second abscess her health rapidly improved, and on the 22d November she left the hospital.

Case 6. *Primipara.—Abscess bursting into vagina, fifth week after delivery.*—M. S., aged 19, four weeks ago was confined of her first child, and has never since been free from pain, chiefly in the left iliac region. There is a decided fullness above the pubes, in the left iliac region. On the upper and left side of the vagina, there was a dense and hard protrusion, extremely tender on pressure. The abscess gave way in the fifth, and she made a slow recovery.

Case 7. *Primipara.—Abscess bursting into vagina eight weeks after delivery.* On the 10th day after a protracted labour, she complained of anomalous pains, chiefly referable to the uterus and appendages. When seen six weeks afterwards the uterus was large and easily felt, and on the left side a swelling could be distinctly felt externally; a protrusion could also be felt on the upper and left side of the vagina, which caused her to shrink when touched. 8th week, a copious discharge of fœtid pus took place from the vagina; and at the end of ten days from its bursting it ceased. The patient slowly, but perfectly recovered.

Case 8. *Primipara.—Abscess bursting into the vagina on the right side—Death subsequently from phthisis.*—In a few weeks after the discharge of the pus, the suspected disease of the lung manifested itself more clearly, and she died with all the symptoms of phthisis. The right Fallopian tube, the corresponding ovary, and also the soft parts lining the pelvis on the right side were dense, thickened, and indurated.

Case 9. *Primipara. Abscess bursting; first externally, and secondly, into the bowel.*—Mrs B. aged 40. On the second day after the birth of her first child, the catheter was required, and its use continued for about ten days. At the expiration of a month, she complained of pain in the left iliac fossa. About the fourth month, a small opening took place, midway between the pubes and the ilium, and a very large quantity of sero-purulent matter escaped. The symptoms soon began to decrease. At the end of three weeks from the opening of the abscess, she ceased to improve; her appetite diminished, &c. Two months after the opening of the first abscess, an evacuation of blood and pus escaped from the bowels. She has nearly recovered.

Remarks,—1st. *Seat and origin of the disease.*—The tumefaction felt both externally and internally; the hard, tense, unelastic condition of the vagina; and the channels by which the pus evacuates itself; its effecting its exit *without* the peritoneum, prove to my mind, that in such cases, the tissue which intervenes between the pelvic fascia and serous membrane is involved.

2d. *Causes.*—This disease may follow an attack of acute inflammation; or it may remain as the sequent of puerperal fever, (see Case 1st.) Cold, falls, blows, &c. are said to have produced the disease. In cases 3d and 5th, the labours were unnatural.

3d. *Symptoms.—a. General.*—The symptoms may supervene days or weeks after delivery. The disease is mostly preceded by rigors, followed by quickened circulation, and pain in the region of the pelvis. The febrile paroxysms may remit, but their intervals of recurrence are at varying periods. The pulse is 100–110; the tongue is loaded; there are frequent calls to make urine, which is scanty and high-coloured; at one time there is constipation of the bowels, at another, diarrhœa associated with tenesmus; and the secretion of milk is usually scanty, or altogether suppressed.

b. Local.—In some cases, a swelling is readily seen; in others, there is an appearance of fulness in one or both sides. The swelling is very sensitive. The whole of the iliac region of the affected side is of a "brawny hardness." In some cases nothing abnormal can be detected by a vaginal examination; but in the greater number there is, to use the words of Dr Simpson, "a morbid permanence of the state of puerperal hypertrophy." In some cases the upper and side part of the vagina will be found hard, tender, firm, and inelastic; and, by pressing upon the swelling, felt through the abdominal parietes with one hand, and keeping the forefinger of the other in the canal, we are able to satisfy ourselves that the hardness and swelling felt in both situations arise from one and the same cause. Frequently, there is some lateral displacement of the uterus. The tenesmus and hæmorrhoids are explained by the pressure of the tumour upon the rectum.

Such cases may be confounded with *Inflammation and abscess of the abdominal walls; A morbid permanence of the state of puerperal hypertrophy of the* *uterus; Fæculent collections; Typho-enteritis; Abscess behind the flexors of the hip; and Sciatica.*

4th, Treatment.—General blood-letting has not been required. In most, the abstraction of blood by leeches, repeated, if necessary, two or three times, has been attended with marked advantage. They may be either applied to the seat of the pain, or to the vagina by means of a speculum. Mild mercurial preparations should be exhibited in small, but repeated doses, so as just to affect the system. In some cases, notwithstanding the early employment of legitimate means to effect resolution, the symptoms plainly indicate the formation of pus. And here our object should be two-fold: 1st, The promotion of suppuration, and the evacuation of the matter; and, 2dly, The maintenance of the constitutional powers. In the majority of cases, nursing should be discontinued, and the infant committed to the care of a wet nurse.—*Abridged from Guy's Hospital Reports* for April 1844.

ON THE INFLUENCE OF ERGOT OF RYE ON THE FOETUS IN UTERO.

BY THOMAS EDWARDS BEATTY, M.D.

I wish to lay before my readers an account of some effects of this drug, which during an extensive employment of it I have observed, and of which I have not been able to find any notice in the authors who have treated of the medicine. There are three opinions very generally entertained of the drug:—

1st, It is said to be incompetent to excite uterine action, under any circumstances. Two obvious causes of this may be suggested,—first, its administration in inadequate doses; second, the inferior quality that was employed. Recent investigations have proved the perishable nature of the medicine, and the medicines with which its peculiar virtues are destroyed.

2dly, It is asserted that the ergot is at all times destructive to the life of the child. When recourse is had to its aid in cases of difficult labour, arising from mechanical causes, the destruction of the infant is almost sure to follow. *I consider a delay of two hours after the ergot has been taken, as sufficient to cause the death of the child.*

3dly, It is said that the ergot may always be given with advantage; the safety of the parent and child being never endangered.

From a very extensive use of the ergot, I am quite prepared to maintain that none of the three opinions are correct, but that the truth lies between them. The medicine, when fresh, and carefully preserved, is in fact one of great energy, and influences not only the mother, but also the infant. It requires to be used with great discretion, for while it will in one case effect the delivery of a living child, it will in another destroy the life of the child before birth, or operate so injuriously upon it as to cause its death shortly after it is born; or produce a peculiar effect upon its nervous system which I have observed, and will presently describe, but which I have not found described in any work that I have perused.

The author narrates six cases in which the ergot was administered when the only obstacle to delivery seemed to be an inert and sluggish uterus; the duration of the labour after the administration of the medicine, varied from a quarter of an hour to two hours—in all, the child was born without any unpleasant effects. He afterwards narrates six cases in which a longer period than two hours elapsed after the dose was given, and in which the peculiar effects to which he is desirous of drawing attention, were observed. These effects are certain spasmodic conditions of the whole muscles of the body, alternating with relaxation on palsy, and accompanied by evidences of derangement of the functions of the cerebro-spinal nerves. The first case illustrates sufficiently the points of importance.

Mrs N. was 18 hours in labour of her first child. The pains were weak and ineffective, and at the end of 16 hours they seemed to diminish in strength and frequency. The os uteri was well dilated, and the child's head nearly rested on the perineum, which was pliable and cool. A dose of ergot was given, and was followed by a second in twenty minutes, the first not having produced any uterine action. From this period the pains became more active, but at no time were they violent, and at the expiration of two hours from the administration of the medicine, the child was expelled to all appearance dead. The surface of the whole body, as well as the face, was of a deep blue colour, resembling the appearance of a child in whom the foramen ovale is open. All the muscles were in a state of rigid contraction; so much so, that the limbs remained straight, and could be with difficulty bent. The fingers were straight, with the exception of the last phalanges, these were bent and crooked downwards, being firmly fixed in that position. No effort was made at inspiration. The cord was now divided, and blood was allowed to flow from the extremity, which it did slowly. A warm bath was provided, and pulmonary insufflation was employed, and at the end of fully half an hour, my exertions to restore animation were successful. The child breathed, but the rigidity of the muscles continued for a long time after it showed signs of life, and when the tonic spasm relaxed, it was only for a short period, and was quickly succeeded by general convulsions. This condition of alternate convulsion and relaxation continued without intermission for three days. During this time leeches were applied to the temples, and the head was extensively blistered. The spine was also blistered from the occiput to the middle of the back, and the usual anti-spasmodic medicines were given by the mouth and rectum. By degrees the intensity of the convulsion appeared to subside, and the interval of relaxation became longer, the strabismus, which had been very great, now disappeared, and the child finally recovered.

It appears from the cases recorded, that the condition of the infants was very unlike that of still-born children delivered under ordinary circumstances, and when no agent had been administered to the mother. *The distinguishing characteristics, were the general lividity of the surface, the universal rigidity of the muscular system, producing the stiffened limbs and clenched hands in those infants in whom life was extinguished, and the remarkable kind of alternating spasm and palsy which supervened in those that were resuscitated.* The continued contraction of the fibres of the uterus must intercept the placental circulation to a certain extent, but in some cases I am disposed to think there is some noxious influence exerted on the nervous system of the infant, producing results of different degrees of intensity, and that these effects vary from the death of the infant, to certain spasmodic affections of the muscular system after birth.—Abridged from the *Dublin Journal of Medical Science* for May 1844.

Statistical Account of One Hundred and Seven Cases of Labour, which occurred in the Lying-in Department of the Philadelphia Hospital. By Dr G. H. Beaumont.

103 were head presentations.	
4 breech presentations.	
Hæmorrhage occurred in	2 before delivery.
Do. do.	1 after do.
The placenta was retained in	1
Convulsions took place in	2
Delivery was effected by forceps in	2

7 cases proved fatal—6 of puerperal peritonitis, and 1 of typhus.

Philadelphia Med. Examiner, February 1844.

Case of Extra-Uterine Pregnancy. By J. Wheatcroft.

On the 23d of September last, I was called to see Harriet Jackson, aged 40, who had been long suffering from disease, supposed by her friends to be dropsy; she dated the commencement of her complaint three years back, when she first supposed herself pregnant, having abdominal enlargement, and the other attendant symptoms; at the termination of the usual period of gestation, she was attacked with uterine pains and the other concomitant symptoms of parturition, which lasted two days; these ceased without any birth taking place, but there was considerable aqueous discharge. From this time there remained a dull fixed pain in the left iliac region, the enlargement being almost confined to that side.

She gradually emaciated, and for the last twenty weeks was confined to bed from debility.

A month ago she passed *per anum* a tibia and ulna of a full-grown fœtus. Upon examination, I found the upper portion of the rectum almost filled with bones, some of which, feeling loose, were extracted; at different times I took out the other tibia, a femur, fibula, the two temporal bones, two ribs, a humerus, and a radius. On the 25th of January she became suddenly worse, and sank rapidly, her death taking place on Sunday the 28th. The following day I made an examination of the abdomen with two medical friends, Mr Higgins, and Mr W. Higgins. We were not allowed to examine the chest.

On laying open the abdomen we found the integuments opposite the left iliac fossa inseparably united to the muscular parietes, and almost perforated by ulceration; this corresponded with a large sac, occupying nearly the whole of the pelvis, communicating both with the uterus and upper portion of the rectum, filled with fæces and the remaining fœtal bones; *the whole of the posterior wall of the uterus was destroyed.* The ovaria and Fallopian tubes were so altered from their normal condition by the extensive ulceration as to afford no clue to the original situation of the ovum. The rest of the abdominal viscera were healthy.

The principal singularity in this case appears to be, that as there was so free a communication with the uterine cavity, there should be no discharge, or the appearance of any fæces per vaginam, especially as we found the os uteri partially open.—Abridged from *The Lancet* for Feb. 24, 1844.

FORENSIC MEDICINE.

A NEW-BORN INFANT POISONED BY GIN.—ACQUITTAL OF THE CULPRIT.

"An inquisition was taken before Mr Baker on Saturday last, at the three Loggerheads, Virginia Row, Bethnal Green, on the body of a male infant (newly born,) who died shortly after some gin had been administered to it by the nurse attending on the mother. Lydia Carlyn, a married woman, of No. 2 Turk's Row, Bethnal Green, said that the deceased was born on Thursday last, about two o'clock. Witness was delivered by a female accoucheur. Shortly after, as it was moaning and appeared distressed, witness asked a woman, named Elizabeth Jolliff, who was attending her, whether she could not give the child something to soothe it? The nurse said that there was some gin in a bottle, which she would give it. She then mixed about a quarter of a teaspoonful of the gin with some moist sugar, which was administered to it. The deceased almost lost its breath, and bled at its mouth. A surgeon was immediately sent for, who ordered a warm bath. Deceased was put into it, but it died in a quarter of an hour after.

"Mr Burchell, No. 1 Kingsland Road, surgeon, stated that he found the deceased in a convulsive state; he ordered some carminative medicine and a warm bath. There was blood upon its bedgown. Gin given to a child so young might bring on convulsions and death in a short time. Such a stimulant ought not to be administered by nurses, as there is great danger in its application. Elizabeth Jolliff stated that she was extremely sorry for the death of the child, and that she would undertake not to give gin again. The coroner here read the law from Carrington and Payne applicable. Persons not of a medical education who should administer medicine, and death ensue, were guilty of manslaughter; and gave several decisions of Judge Bailey. He then directed the jury to return an open verdict, as a magistrate might take a different view of the evidence. He did not think the jury would be disposed to send the case to another tribunal. Verdict, 'That the deceased was born alive, and died within five hours of its birth, but from what cause there was no satisfactory evidence.' The coroner told the nurse that she was indebted to the kind consideration of the jury for the verdict, and remarked that had the case been stronger, he would have had no difficulty in sending her for trial."—*Standard Newspaper, some weeks ago.*

[From the above, we learn that gin is a medicine, and that although there could not be a shadow of doubt that the child's death was caused by it, the jury found that there was no satisfactory evidence of the fact. If it be the law, that persons, not of a medical education, who administer medicine causing death, are guilty of manslaughter, it appears to have become obsolete, for we every day hear of persons so destroyed, without any prosecution in consequence.]

Death from the Ingress of a Snake into the Stomach of an Infant.

By Dr Sara.

A young infant lay sleeping on the ground. A large snake introduced itself by the mouth into the stomach, so far that the half of the animal was within the alimentary canal. The mother, who was near, ran forward in despair, and pulled with all her force at the part of the animal hanging from the mouth. The body of the snake broke across, and the child died asphyxiated in a few hours.

On examining the body, it was found that the animal had attached itself by its teeth to the mucous membrane, near the pylorus.

This fact ought to awaken the attention of persons in the country, who are in the habit of sleeping on the grass during the warm season. As to the treatment of this serious accident, we cannot do better than report the following simple means adopted by Sauterotte. A young man had fallen asleep in the fields with his mouth open. A serpent, attracted by the vapour of milk, which he had been drinking, penetrated into his stomach. At first he only experienced some discomfort, but soon violent colic supervened, with an oppressive sensation of cold. Sauterotte being informed of the accident, conceived the idea of boiling some milk in a caldron, and suspending the patient above the boiling liquid, with his head inclined downwards. Almost immediately, the snake, attracted by the vapour of the milk, fell into the caldron, and from that time, the patient's cure went on prosperously.—*Journal de Chimie et de Pharmacie*, April 1844.—From an Italian Journal.

An American Physician Sentenced to Pay Five Hundred Dollars for some alleged Ill Consequences of Vaccination. By Dr C. A. Lee.

Certain physicians were employed by the authorities to vaccinate such inhabitants of Salisbury, Connecticut, as had never had the cow-pox. For this service the trifling sum of fifty dollars was divided between them, being about four cents, or less than twopence, for each case. It fell, unluckily, to the lot of a student, who supplied the place of one of them, to vaccinate a girl, about twenty. The punctures were made low down—in fact, very near the elbow—which was accounted for by the difficulty of raising the sleeve, a very tight one, and perhaps by her affected modesty!—She complained of some degree of pain after the operation, which was followed by no very unusual degree of inflammation, but afterwards for some time she suffered from pain and stiffness about the limb, extending to the neck and jaws, and always worse *when she thought or talked about it.* But the evidence showed that even this was not very bad. In fact she was an ill conditioned hysterical subject, and the pains were easily referable to this source. Plenty of medical evidence was adduced in proof of this view of the case.

Judge Daggett, however, in the face of medical witnesses, and of common sense, laid down this preposterous dictum:—

"*In performing the operation of vaccination or inoculation, the physician is liable for all consequences if he neglects the usual precautions, or fails to insert the virus in that part of the arm* USUALLY SELECTED *for the purpose, notwithstanding many other parts of the body might be proven to be equally proper, and even more suitable locations.*"

He illustrated this principle by saying that a man would, in like manner, be liable for all consequences, in transporting public or private property, who departed from the usual route, though the one selected should, on every account, prove to be the best one. This principle, illustrated by numerous examples, and enforced by all the eloquence of the learned and accomplished judge, sufficed to influence the minds of the jury in behalf of the plaintiff; and they accordingly brought in a verdict in her favour for 500 dollars and costs, the total expense amounting to about 1,000 dollars. A more unrighteous verdict, I will venture to say, does not disgrace the record of any civil or criminal court in this, or in any other country.

This case, continues Dr Lee, is a highly important one; for if the principle laid down by the judge, and on which the verdict was given, be correct, and is to regulate similar or analogous cases in future, then farewell to all improvements in medicine and surgery. If the physician or surgeon is bound to keep the old beaten path, and never deviate from the plan laid down by his predecessors, without exposing himself to the danger of being mulcted in heavy damages, where is the chance of improvement and discovery? Had such laws governed the decisions of English courts, we should never have heard of the splendid surgical achievements of Hunter, Pott, the Coopers, Abernethy, Bell, and Liston. The practical effect of the principle which decided the above case is well illustrated by a fact which came to our knowledge during a recent visit to the town in which the physician, who was the defendant, resides. From that time to the present, we were informed, that he had not bled a patient, for fear that inflammation of the vein might follow, or a nerve be injured, or some other injury, real or imaginary, be the result, and thus subject him to another ruinous prosecution. Rather than take such a risk, he chooses to resort to the exclusive administration of internal remedies, even where blood-letting is clearly indicated.—*New York Journal of Medicine.*

CASE OF POISONING BY THE BICHROMATE OF POTASH. BY GEORGE WILSON, ESQ., Surgeon to the House of Recovery, Leeds.

A man, aged 64, who had once attempted to commit suicide by hanging, lost some money on his way from Huddersfield to Leeds, which belonged to his son-in-law. After drinking about a pint of home-brewed beer, he went to his bed at 11 P.M.: he was heard during the night, and on the following morning to snore very hard, and about 11 o'clock in the forenoon was found dead. He was found lying in an easy posture, with the left hand under the face, and the lower extremities drawn up to his body. His countenance was composed; the eyes and mouth were closed; pupils dilated; no discharge from any of the outlets of the body; no marks of vomiting or diarrhœa; no stain upon the person, bed, or furniture.

Dissection.—The brain and membranes were in a healthy condition, and the thoracic viscera equally so. The viscera of the abdomen presented no unusual appearance externally. The stomach contained nearly a pint of black, turbid, inkylooking fluid. The mucous membrane of the stomach was red and very vascular, particularly at the cardiac end. The redness did not extend to the œsophagus or duodenum, nor were there any dark stains on any part of the mucous surface. By analysis the dark matter found in the stomach was found to consist of a considerable portion of bichromate of potash. In his pockets were found half-a-pound of a dark powder, consisting of bichromate and bitartrate of potash (argol) and fine sand.

The writer thinks, that "the history and post-mortem appearances of this case would seem to indicate that the salts of chromie acid do not act upon the body merely as irritants, but that they have some more direct effect upon the nervous system, for we cannot attribute the fatal event in this instance to the gastritis, which was neither general nor very severe, and which could scarcely have caused death in so short a time; that is, supposing the poison to have been taken the night before, after the deceased had discovered his loss."—Abridged from the *London Med. Gazette* for March 1, 1844.

PART FOURTH.

MEDICAL NEWS.

ELECTION OF A PROFESSOR OF CHEMISTRY AT EDINBURGH.

The vacancy caused by the resignation of Dr Hope, was at last filled up on the 14th of May. Many candidates were originally in the field; but all had resigned before the vote of the patrons was taken, excepting Dr William Gregory, and Dr Fyfe, the former of whom was chosen by a large majority—the numbers being 20 to 14. Among the candidates there were several quite unexceptionable in every point of view, but certainly none better qualified than the eminent individual who had the majority of voices. We are glad to learn that the appointment has given satisfaction to all who are interested in the fame and honour of the University of Edinburgh.

THE DEPRESSED STATE OF THE PROFESSION.

Hunger and poverty drive many of our brethren into the disreputable walks of quackery; and this will continue to be the case till medical men are less numerous, and better remunerated. It is refreshing to find that some of our brethren who cannot obtain professional employment, prefer any honest occupation, to feeding on the fears, the credulity, and the health of their fellow-men. It is stated in the London newspapers that there are eight medical men of good character in the police force of the Great Western Railway Company!

PROFESSOR SIR GEORGE BALLINGALL ON THE EDUCATION OF MEDICAL MEN FOR THE ARMY.

In the number for December last, we noticed shortly a letter to Sir R. Peel from the Professor of Military Surgery in Edinburgh, recommending the institution of lectureships similar to his own, in the medical schools of London and Dublin. This proposal has been unfavourably noticed in the last number of the *Med.-Chirurgical Review*, a circumstance which we cannot regret, inasmuch as it has called forth from Sir G. Ballingall, a temperate, dignified, and, as we think, a conclusive reply, which is annexed to our present number.

DR POWER THE AUTHOR OF THE NEW THEORY OF MENSTRUATION.

[Several animadversions, direct and indirect, have been made in cotemporary journals, on a statement contained in our review of Dr Lee's work, that Dr Power was the author of a discovery claimed by Dr Lee. The following letter makes any explanation or proof of accuracy unnecessary on our part.]

To the Editor of the Lancet.

Sir,—In the *Lancet* of the 20th instant, the honour of "the discovery of the true theory of menstruation" has been more courteously than correctly, conceded to Dr Robert Lee, by Dr W. Jones. To this honour, however, I shall at once prove that Dr Lee is assuredly not entitled.

Dr John Power, eldest son of Dr Power, formerly of Market-Bosworth, in the county of Leicester, afterwards of Lichfield, and now living in retirement at Atherstone, published some twenty-four years ago, a volume upon obstetrics, wherein that most specious theory is clearly set forth. The precise title of the volume in question I do not recollect, but the fact is distinctly impressed upon my memory, inasmuch as I was unjustly suspected, by Dr John Power, and his friends, to be the author of a very humorous and sarcastic notice of his work which appeared in one of the Leicester journals of that day.

Whether the theory in question originally emanated from the luminous and powerful mind of Dr John Power, I am unable to decide. In the long and not very limited acquaintance which I have cultivated with medical literature, British and foreign, no trace of the existence of such a doctrine, previously to the publication of Dr Power's work, has ever met my eye. And I rejoice in the opportunity thus afforded me of exposing an error, upon which, if it were suffered to remain, the future historian of our science might, peradventure, stumble; and rendering an act of justice to the son of the most highly-gifted and formidable rival with whom, in the earlier years of my practice as physician at Tamworth, I had to contend. I am, Sir, obediently yours,

SHIRLEY PALMER, M.D.

BOOKS RECEIVED.

(*Continued from page* 360 *of April number.*)

34. Scrofula: its nature, causes, and treatment; and on the prevention and eradication of the Strumous Diathesis. By W. Tyler Smith, M.B. 8vo, pp. 172. London: 1844.
35. Practical Observations on the prevention, causes, and treatment of Curvatures of the Spine, with an etching and description of an apparatus for the correction of the deformity, and engravings illustrative of the cases. By Samuel Hare, Esq., Surgeon. [2d edition revised and enlarged.] 8vo, pp. 177. London: 1844. To be noticed in an early Number.
36. Facts and Observations on the Sanatory State of Glasgow during the last year, with statistical tables of the late Epidemic, showing the connection existing between poverty, disease, and crime. By Robert Parry, M.D., &c. &c. With an Appendix containing reports from the District Surgeons. 12mo, pp. 37. Glasgow: 1844. To be noticed in an early number.
37. A Treatise on the use of the Sympathetic Nerve and its Ganglions, with their influence on various diseases of the abdominal and pelvic viscera. By T. B. Procter, M.D., &c. *Illustrated with drawings.* 4to, pp. 47. London: 1844.
38. Osservazioni Critiche Sopra il Sistema di Gall conforme questo sistema trovasi esposto nelle lezioni di Frenologia del signor Broussais, Scritte de Mauro Rusconi. (*Lette nell' adunanza dell' J. R. Instituto del giorno*, 9 *Febbrajo*, 1844.) 8vo, pp. 13. Milano: 1844.
39. Osservazioni sopra il Camaleonte Africano: Fatte Dal Dottor Mauro Rusconi. (*Lette nell' adunanza del giorno, Dicembre* 14, 1843.) 8vo, pp. 13. Milano: 1844.
40. Lecture Introductory to a Course of Clinical Surgery, delivered to the Students of the Glasgow Royal Infirmary; with statistical tables, showing the diseases treated, and the operations performed in this Hospital, as also the comparative expense of medical education throughout the British empire. By M. S. Buchanan, M.D., Professor of Anatomy, Anderson's University, Senior Surgeon to the Royal Infirmary of Glasgow, &c. 8vo, pp. 25. Glasgow: 1844. This lecture has arrested our attention; and it is our intention to lay

some extracts from it, with remarks, before our readers in next number.

41. Outlines of Pathology and Practice of Medicine. By William Pulteney Alison, M.D., F.R.S.E., Professor of the Practice of Medicine in the University of Edinburgh, &c. Part III. 8vo, pp. 501-736. Edinburgh: 1844.

This part completes Dr Alison's admirable Outlines.

42. Observations on the Epidemic Fever of 1843, in Scotland; and its connection with the destitute condition of the poor. By William Pulteney Alison, &c. 8vo, pp. 80. Edinburgh: 1844.

A most important pamphlet. We will notice some of the statements which it contains in an early number.

43. Report of the Carlisle Dispensary for 1843. 4to, pp. 18. Carlisle: 1844.

44. Guy's Hospital Reports. No. III of Second Series. April 1844.

A valuable number, as the extracts in our Periscope testify.

45. Catalogue of the Museum attached to the class of Military Surgery in the University of Edinburgh. Pp. 37. Edinburgh: 1844.

This collection, we are informed by Sir George Ballingall in his preface, consists of two parts: *First*, the preparations made by Mr Rutherford Alcock, during the service of the "British Legion of Spain," and of which very full descriptions, with valuable details of the cases, are contained in the MS. Catalogue. These preparations are kept up as a separate collection; and they will be at once recognised by the letter A, attached to each of them: *Second*, the preparations, models, casts, and drawings, collected by the present Professor, marked by the letter B, and for many of which it will be seen that he is indebted to his friends in the public service.

46. Report upon the Practice of Practical Medicine in the departments of Midwifery, and the Diseases of Women and Children, during the years 1842 and 1843. By Charles West, M.D. 8vo, pp. 37. London: 1844.

This is an excellent tract, reprinted from No. XXXIV of the Brit. and For. Med. Review.

47. Lecture on Physical and Intellectual Life, delivered before the Educational Society of St Mary's, Birmingham. 8vo, pp. 58. London: 1844.

This is an ably executed little book: it brings together, in a rapid, and frequently pleasing review, a vast number of the more interesting facts and general views respecting the bodily functions and mental powers of man, which can be made the subject of contemplation, or of reasoning, by the professed physiologist or accomplished practitioner.

48. Recherches et Observations sur les Causes des Maladies Scrofuleuses. Par J. G. A. Lagol, Médecin de l'Hôpital Saint Louis, &c. 8vo, pp. 370. Paris: 1844.

OBITUARY.

Robert Kendall Fair, Esq., M.D., died at his father's house, 14 Royal Crescent, Edinburgh, on the 19th of April. Dr Fair graduated, and passed the College of Surgeons last autumn. He had attained his 24th year a few days before, but death suddenly terminated a career apparently commencing with the most favourable prospects, leaving his family and a large circle of friends to deplore the early loss of one, whom kindness of heart, and engaging manners had peculiarly endeared to them.

Fournet, author of the well known work entitled:—"*Recherches cliniques sur l'Auscultation et sur la Phthisie Pulmonaire*," died in Italy some months ago, of consumption.

Dr F. Simon of Berlin.—It is with extreme regret that we announce the death of this well known medical chemist. The following short notice of his career may not be uninteresting to our readers. Dr Simon was the son of a surgeon, and born at Frankfort on the Oder, August 25, 1807. He was educated as an apothecary, and early distinguished himself by his communications to the different pharmaceutical journals. In 1832 he went to Berlin, and passed his examination as a pharmaceutist of the first class. In 1835, however, he abandoned pharmacy, and applied himself more particularly to the study of chemistry and toxicology. He shortly after published with Dr Solurupiun a work on poisons, whch is the most popular on the subject which has been published in Germany. In 1838 he had conferred on him the degree of doctor in philosophy, and published his thesis *on the human milk*, which at once established his reputation as a chemist and histologist.

In 1839 appeared his *Tabular views on the Medicinal Springs of Europe*, in which he collected together and condensed 1045 different analyses. He also wrote the chemical part of Nicolai's *Manual of Medical Jurisprudence.*

In 1840 was published the first part of his great work on *Medical Chemistry*, which was completed in 1842. The numerous analyses it contains are distinguished by their accuracy, and are rendered accordingly valuable from the intimate acquaintance possessed by the author of the physical properties, minute structure, and vital endowments of the tissues and fluids examined. In this respect Raspail is the only chemist with whom he can be compared. He was so convinced of the utility of conducting inquiries in this manner, that he was anxious to establish a laboratory in the Charité Hospital, in connection with Schönlein's Clinique, for the purpose of furthering practical medicine by microscopic and chemical researches. Want of funds caused the postponement of this excellent plan, notwithstanding the influence exercised with the government in its behalf by Schönlein and Von Humboldt. In the meantime, to exhibit the great importance of chemical and microscopic inquiries to practical medicine, he projected in 1843 a Quarterly Journal, under the title of *Contributions to Physiological and Pathological Chemistry and Microscopy*, in their application to practical medicine, which soon met with the most deserved success and general circulation. It is entirely devoted to the publication of original observations on the chemical and morphological properties of the different tissues and fluids of man, in a state of health and disease. We are happy to say that this important periodical will be continued under the direction of Dr Julius Minding.

With a view to re-establishing his health, (which, never strong, had been much weakened by his unwearied labours in the cause of scienee, and in teaching his various classes,) he commenced in the autumn of 1843 a tour in southern Germany. He was seized with sudden indisposition, when steaming down the Danube, and died on the 23d of October, at Vienna, after a few weeks' illness. The post mortem examination displayed tubercles in the brain, without, it is said, any other morbid lesion.

In Dr Simon, Medicine has lost one of its most ardent cultivators. The profound chemical and histological knowledge he possessed was wholly directed to further a knowledge of the causes and seat of disease. His continual desire was to show the profession that such studies not only tended towards the advancement of pathology, but towards the practical information required in the treatment of disease: that the furtherance of our acquaintance with the one was the only legitimate and certain means of advancing our knowledge of the other, and that rational medicine must ever consist in the union of both.

TO CORRESPONDENTS.

Original Articles, by the following gentlemen, will appear in our next, or in an early number:—Professors Simpson, William Gregory, Allen Thomson, and John Reid; Drs Tinniswood, Lawrie, and Keith.

Reviews of several works are unavoidably delayed.

The Reports of the French Academies, of the Edinburgh Medico-Chirurgical Society, &c. &c., will be given in next number.

Dr Rusconi of Pavia has our best thanks for 22 francs, (received through a banker,) as his subscription to the Journal for 1844. We take this opportunity, however, of stating, that the work is supplied in Italy through our Parisian publishers, Messrs Fortin, Masson, & Cie. It is to them that money and orders ought to be remitted from Italy. They send it regularly to Milan, &c.

Dr Otto of Copenhagen. In compliance with Dr Otto's wishes, his exchange copy of our Journal will henceforth be sent to him through Messrs Longman & Co.

Monthly Journ. of Med Science

Vol for 1844 P 565

Dr. Vrolik's Case of Icthyosis Intra-Uterina.

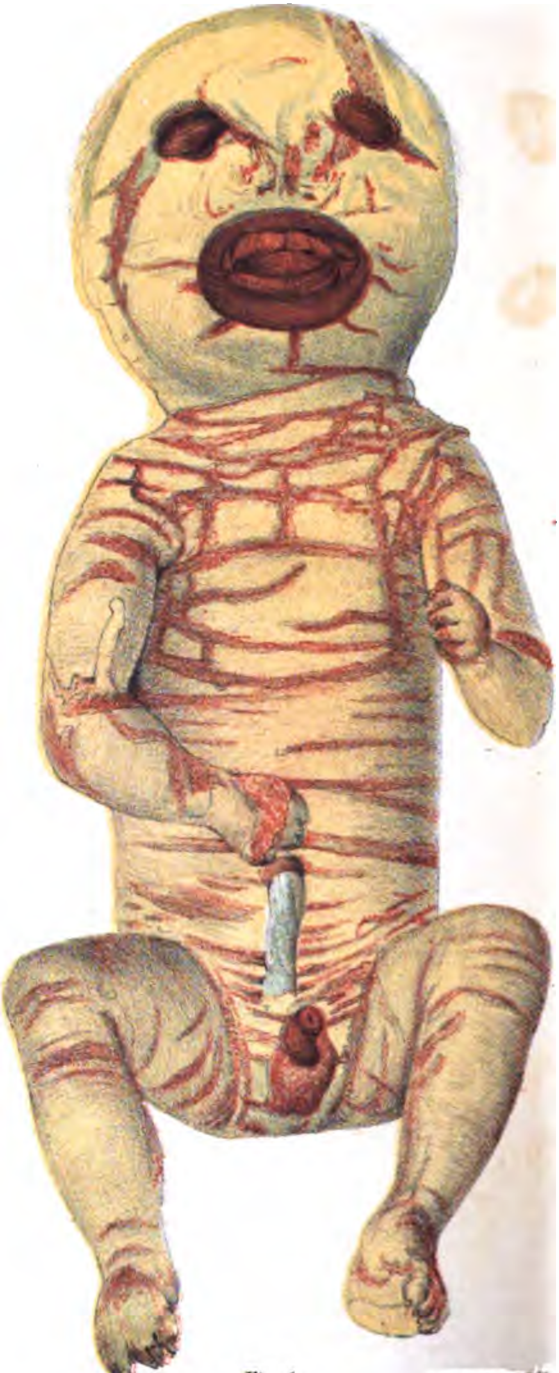


Fig. 1.

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Dr Vrolik's Case of Icthyosis Intra-Uterina.

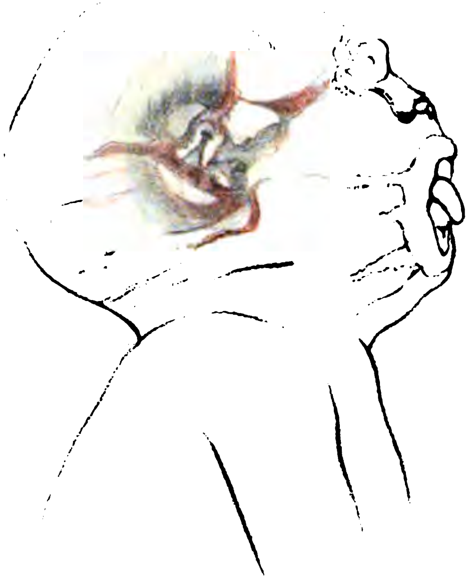

Fig 3.

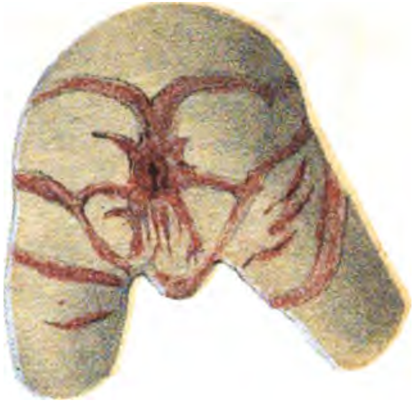

Fig. 4.

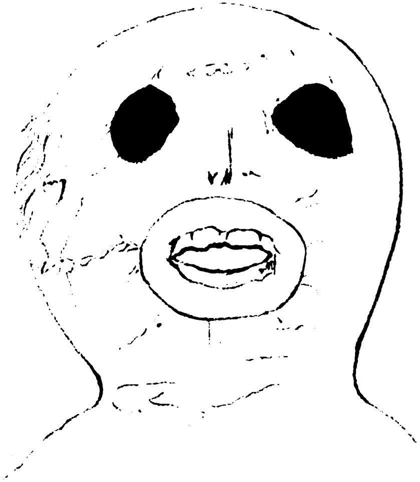

Fig 2.

THE

LONDON AND EDINBURGH

MONTHLY JOURNAL

OF

Medical Science.

No. XLIII.] JULY. [No. VII. OF 1844.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Two Cases of Icthyosis Intra-Uterina. By* J. Y. SIMPSON, M.D., F.R.S.E., *Professor of Midwifery in the University of Edinburgh.* (With two Plates.)

IN the Number of this Journal for August, 1843, Dr Keiller of Dundee published an interesting case of Congenital Icthyosis. To Dr Keiller's paper I appended notes of a few examples of analogous cutaneous disease in the infant at birth, and added some remarks on the pathological nature of the affection. Since the publication of these cases, two additional instances of this curious and rare disease have been communicated to me.

CASE I. Professor Vrolik of Amsterdam informs me, that a preparation of the same fœtal disease exists in the museum attached to the medical school of that city. An account of the case was drawn up and published by his distinguished father, in a Dutch Medical Journal, in 1841. Through the great kindness of Professor Vrolik I have been furnished with drawings and manuscript notes of the case; and I venture to publish them, not only as an addition to, and confirmation of the observations which I have offered on the subject, in the essay already referred to, but as containing also some new and valuable remarks.

The child described by Dr Vrolik was a male, and born in the eighth month. It was the offspring of parents who were in the enjoyment of perfect health.

The external appearance of the infant was so peculiar, (observes Dr Vrolik) that it would be very difficult to form a correct idea of it without the drawings. Its skin, fissured in different parts, was hard and thickened generally; it was of a yellow colour, and covered with the epidermis; in the fissures, it was softer, and somewhat of a bloody appearance. (Fig. 1, &c.)

The head, which was almost round, presented very open sutures, and a very large anterior fontanelle. It was covered with thin, short, silky hair, and the scalp was intersected by numerous fissures, one of them running from the left superior eyelid over the os frontis, being twelve millimetres in breadth. Another was confined to the right superior eyelid, and here also there was a very large fissure at the external angle of the eyelids, which ran in a direction backwards.

The forehead was inclined backwards; the ears were quite concealed by the skin, and only to be seen in their outline very imperfectly; the eyebrows were entirely absent; instead of closed eyelids, there were two bloody tumours formed by the interior lining membrane of the eyelids, or by the ectropia of the conjunctiva, behind which the eyeballs were deeply concealed in the orbits; there were but few cilia on the eyelids, and the extroversion of the conjunctiva was less in the under than in the upper eyelids.

Between the two very distant eyes there was some indication of a nose, which was very large and flattened, and indeed only shown to be such by the two nostrils. (Fig. 2 & 3.)

The mouth was largely opened, forming an ellipsis with the returned interior surface of the lips, and surrounding the alveolar parts of the two jaws and the tongue, which was much thickened; in the upper jaw the rudiments of the incisor teeth were very apparent; at each angle of the lips there were three cutaneous fissures; and in the same manner there was one on each side of the upper lip.

The neck was short and broad, and consequently the head was close to the thorax; the breast and abdomen were almost of the same size, and very different in their appearance from those of well-formed subjects of the same age; the upper and lower extremities were so far natural, but the hands and feet were swollen, and covered with a fissured skin, and the fingers and toes were so disfigured, that they resembled claws; the natural thickening of the epidermis on the sole of the foot was confined to a very small part, and distinctly circumscribed. (Fig. 1.)

The scrotum (in which there were no testes) and the penis were of a red colour, and appeared as if the chorion and epidermis were retracted from them; no perineum was to be seen; the stretched skin did not allow of a depression behind the scrotum; the opening of the anus was placed on the same level with the nates; here, as well as on the thighs, there were a great many fissures, which, by some difference in their appearance, showed that they had not all been formed at the same time. (Fig. 4.)

By a superficial examination of all those fissures, it was very clear that some of them were recent and unhealed; others were in the way of being cured; some were covered by a red cicatrix; and others were quite like the unfissured parts of the skin.

After the above description, " Dr Vrolik enters" (as his son writes me,—and I quote his own words) "into some considerations regarding the etiology of this deformity, and arrives at a conclusion similar to that of Dr Simpson, viz.: that the cutaneous fissures are merely a secondary and mechanical result, and that the integumentary parts not possessing a proper degree of expansibility, and not increasing with the increasing dimensions of the growing fœtus, at last split and fissure under the stretching from within to which they are subjected. To the same mechanical cause are to be referred the ectropia of the eyelids, the form of the mouth, of the nose, and of the ears. The only part in which his explanation differs from that of Professor Simpson is, that the general form of the child must depend upon an arrest of development, and that both this and the degeneration of the integuments are the causes of this deformity."

CASE II. After the former cases were published, it occurred to me that my friend Dr Lewins once casually informed me, that he had seen a child born at Haddington, with a diseased state of the skin greatly resembling, if not identical with the other instances I had collected. On lately applying to Dr Lewins on the subject, and transmitting to him at Tiverton drawings of Dr Keiller's case, he immediately furnished me with the following reply:—

"In the drawing that you had the goodness to send to me, I distinctly recognise an exact similitude to the case I saw at Haddington sixteen years ago, except, that in the instance which I witnessed, the disease was confined to the head and neck. The fissures in the Haddington child were deeper, perhaps I should say wider, than those in Dr Keiller's case, if I can judge from the drawing. The back view seems to me more like that which came under my observation. In consequence of the fissures in the face and forehead being wider, and the interstices broader, and the child larger,—gigantic, I may say, its aspect was more horrible than the Dundee case seems to have been. Indeed, the object of the parents in sending for me, was to sanction the destruction of the monstrous production, and I had difficulty in convincing them that the *Senatus Academicus* of the University of Edinburgh had not invested me with such despotic power, when they made me a Doctor of Medicine.

The child had been born at the full time. I saw it about 48 hours after the woman was delivered. The infant appeared viable enough. It had not been applied to the mother's breast, but swallowed milk and water greedily, and cried lustily. It was dead and buried at my second visit, a few days afterwards.

The labour had been dreadfully severe, from the great size of the child's head.

I have no recollection of any thing particular in regard to the eyes but the eye-lids were fissured and swollen, as was the nose, particularly the alæ, and the lips. Altogether the face was most horrible to behold.

The parents were healthy persons, with rather fine skins, and both were well formed. They had a large family of fine children."

ARTICLE II.—*Cases; with Observations.* *By* GEORGE TINNISWOOD, M.D., *Physician to the Carlisle Dispensary.*

CASE I.—PNEUMONIA, GANGRENE OF THE LUNG, (WITH TUBERCLE?) —RECOVERY.

Eliza D., aged 31, mother of seven children, (*Nov.* 14, 1842,) —says, that she has had several attacks of inflammation of the right lung; and was pronounced phthisical two years ago. Was under treatment for pulmonary disease about two months ago, when she derived so great benefit from the inhalation of iodine, that she thought herself well, though she still continued to be troubled with some cough and expectoration in the mornings.

She felt cold and shivering on coming out of chapel on Sunday the 6th instant, and has been unwell ever since. On Tuesday the 8th, she was attacked by pain in the chest, with very troublesome cough. She sent on the 13th to the Dispensary; and when seen by the house surgeon, was expectorating a quantity of fœtid dark-coloured fluid. To-day she appears very pale, has a peculiar lividity of the countenance, is very much depressed, and suffers from a harassing cough, with severe burning pain in the right side of the chest, below the mamma. The skin is bedewed with a clammy perspiration. The sputa are slightly fœtid, green, gelatinous, and of tough consistence, presenting dirty brick-red streaks. On the right side, about the sternal end of the sixth and seventh ribs, there is a space where the respiration is inaudible; for a larger space round this there is a crepitant râle; there is harsh bronchial respiration below both clavicles, and mucous râles over the whole of the left side; pulse 120, weak.—*Fiat venesectio.—Sumat calomelanos gr.* ij, *cum opii gr.* ¼, *tertiâ quâque horâ.—Sumat tart. antim. et potass. gr.* ¼ *2dâ quâque horâ, ex aquâ.—Applicentur hirudines xii pectori.*

Nov. 15. 9 A.M. The blood taken is much buffed and cupped. After the bleeding the pulse fell to 100, and became stronger, with some relief to the pain. She has expectorated some dark fœtid coloured matter.—4 P.M. Very weak, has had some sickness; expectorates quantities of dark coloured highly offensive sputa, containing flocculent pieces of lung. Cavernous respiration is heard where respiration was yesterday inaudible; there is a loud sonorous râle over the other parts of the lung; pulse 120.—8 P.M. Expectorating tough mucus similar to the expectoration on the 14th. She is lying on the right side, which probably accounts for the change in the character of the sputa; bowels not moved for two days. She was ordered beef tea, a little wine, a quinine mixture, and an aperient.

Nov. 16. 9 A.M. Pulse 100, weak; slept occasionally during the night, but feels very depressed, and complains much of the horrible fœtor and taste of the sputa, which have been of the dark prune colour during the night, but are now of the same character as reported last night. Cavernous respiration is heard, with loud cooing noise. She has clammy sweats; thirst; bowels not moved.—5 P.M. Bowels moved twice; sputa only slightly discoloured, but very fœtid; pulse 100.—She was ordered to take effervescing powders occasionally; and to continue the quinine.

Nov. 17. Pulse 120; much depression; excessively fœtid green mucous sputa; respiratory murmur very inaudible over the whole of right side, except below clavicle; mucous râles, with large bubbles.

Nov. 18. Continues much the same.—An opiate draught was taken at bed-time; and the other medicines, as formerly prescribed.

Nov. 19. Passed a tolerable night; has turned to the left side, and since then expectorated a quantity of very fœtid dark-coloured sputa, with loose shreds in it; cavernous râle very distinct.

Nov. 20. Passed a tolerable night without the draught; continues much the same; complains of the right side being tender to the touch.

Nov. 23. Has continued in the same state since 20th; the sputa becoming less fœtid, and with very little flocculent matter in them; bowels moved by two aloetic pills taken last night; the right side of the chest is much depressed and flattened; cavernous respiration; pulse 100.

Nov. 25. Still improving.—The quinine mixture was omitted; and ʒij of tincture of camphor ordered to be taken thrice a-day.

Nov. 28. Has continued improving, but expectorated some arterial blood to-day and yesterday; pulse 90.—A blister was applied to the side.

Dec. 6. Continues much the same; profuse night sweats; cough very troublesome.—To control the sweating, acetate of lead and opium were ordered.

Dec. 20. Improving till within the last day or two, during which she has spat some more blood; the blister on the side caused a good deal of irritation, and has healed very badly. She can now sit up, and feels stronger. Pectoriloquy distinct below the right mamma.—The acetate of lead and opium were omitted.

Dec. 27. Sitting up; considerably better; the expectoration diminished, and no longer fœtid; no night sweats for a week.

Jan. 2, 1843. Improving, but there is still some œdema of the legs; pulse 100.—A draught was ordered to be taken three times a day, containing gr.ij of iodide of potassium, ʒss of the spirit of nitrous ether, and gtt.x of the tincture of foxglove.

Jan. 11. Anasarca still continues; but she is otherwise improving.

Jan. 26. Anasarca diminished; general health improved; little or no cough; pulse 90; complains of some pain in right breast.—Six leeches were applied to the chest; and she was ordered to take three times a-day, gtt.xv of the tincture of foxglove.

Jan. 28. Pulse 70; pain gone; appetite tolerable, and she was able to walk about the house. There is dullness on percussion below the right mamma; no pectoriloquy; and the respiratory murmur is totally inaudible; over the posterior part of the chest, between the scapulæ, and below the clavicles, the respiration is harsh or puerile.—All the medicines were discontinued.

Jan. 31. Continues improving in strength, but complains of short tickling cough, with slight pain or *uneasiness* of left side, and some dyspnœa; expectoration scanty; stomach troubled with flatulence and acid eructations; pulse 90.—A Burgundy pitch plaster was applied to the breast.

Feb. 28. Presented herself again, stating that she has been tolerably well for some time, but complains now of swelling of legs and abdomen, with occasional griping pain. The catamenia have not appeared since her illness, except once, and that scantily.—The warm hip-bath was ordered.

March 21. Considers herself *in her usual state of health;* but complains of some dyspnœa on exertion.—*Dismissed.*

Feb. 18, 1844. She has remained tolerably well since her dismissal; but had a miscarriage in autumn, which weakened her very much. She has still some cough and dyspnœa, and says that her right side is much flatter than the other.

Remarks.—This case presents a remarkable instance of recovery after the destruction of a considerable part of the lung, by gangrene from inflammation, set up in the neighbourhood of a large tubercular deposit, and obliterating the vessels of a portion of the lung—the walls of the cavity having afterwards collapsed, and the greater portion of the lung becoming impervious. The quantity of the dark fœtid sputa was at times very great, and the smell was so putrid and offensive, that the room was perfectly intolerable, notwithstanding the frequent use of chloride of lime. In the latter part of her confinement, she derived much benefit from frequently repeated doses of comp. tinct. camph., from the use of a bandage round the chest, and lying upon the right side, with a pillow under the breast. These means seemed to keep the lung at rest.

CASE II.—LARDACEOUS SCHIRRHOMA OF THE LUNG INVOLVING THE FIRST RIB, CLAVICLE, &C. DISEASED HEART. AUTOPSY.

William D—n, aged 41, a warper.—This man, (the husband of Eliza D., whose case has just been detailed,) applied as an out-patient on the 10th of October 1843. He stated that he had been suffering from cough and dyspnœa for twelve months. He has mucous expectoration, occasionally tinged with blood; respiration is dull on right side,—somewhat puerile and sonorous on left; the sounds of the heart are normal, but heard over a large space, and its impulse is weak. A large hard tumour was felt arising from the first rib and clavicle, involving the origin of the sterno-mastoid, and lying in the postero-inferior triangle of the neck on the right side. He first felt it about six months before admission, since which time it has increased to its present size.

He has been treated since October with alteratives, croton embrocations, iodide of potash internally, &c. About the beginning of December he became anasarcous in the face and arms, and complained of pain and numbness of the right arm, the tumour increasing, and the veins of the breast becoming tortuous and enlarged. He complained of a feeling of pressure and uneasiness in the tumour at night. About the 26th, he was allowed sarsaparilla at his own request. In January 1844 the tumour still continued to enlarge; he fell off in flesh, but his arms continued œdematous, and the right became powerless. He had senna mixture with spirit. ether. nitr. and tinct. digitàlis daily.

Feb. 4. He has been a home patient for three weeks. The tumour is gradually enlarging; about a week ago, there was a distinct crepitus over the sternal end of the clavicle. There is now a depression, a little more than an inch from the sternum, the clavicle being evidently broken through; he says he felt a crack one night, and since then his arm has not been pained, though it is still œdematous and powerless. The tumour has extended down to the third rib; it is hard and unyielding, and has no pulsation. The artery of that arm beats quite as strongly as that of the other; respiration is inaudible on the right side of the chest, and percussion gives a very dull sound. The cough is much the same; he says that the tumour presses more on the windpipe than it used to do; he is very weak. The only treatment adopted was with the view of keeping down the anasarca.

18th. Died.

Autopsy.—20th. The right arm was very œdematous, but the body and other limbs were not so; he was somewhat emaciated. The clavicle was found involved in a lobulated tumour which extended up the neck, and encroached upon, and somewhat displaced the vessels of the neck. The subclavian and innominata arteries passed through the tumour; they were somewhat thickened and enlarged, whilst their accompanying veins were almost obliterated; especially the internal jugular, which was a mere thread. The tumour occupied all the left side of the superior thoracic opening, passing up from the lung, in the substance of which it seemed to have originated; the upper lobe being entirely occupied by it, whilst the middle was gradually assuming the same character, being condensed and completely solidified. The clavicular origin of the great pectoral, the sterno-mastoid, and trapezius muscles, were also becoming altered, and assuming the appearance of the tumour, which closely adhered to the first rib and manubrium of the sternum; these bones were altered in their texture—their cells being filled with scirrhous matter. The clavicle itself had been gradually absorbed into the tumour, till a mere spiculum remained, which had at last given way. On being cut into, the tumour grated under the knife; and, in the lung especially, presented the appearance of fresh cut pork; a fluid oozed out from numerous small orifices on pressure. A portion of the lower lobe of the lung was emphysematous, and only a small portion was at all healthy: it was gorged with blood in the neighbourhood of the tumour. The bronchi were considerably dilated in the left lung; the pleuræ were intimately adherent throughout on both sides. There was a small quantity of reddish serum in the pericardium; the aorta was somewhat enlarged, and the vasa vasorum were beautifully injected with blood; the right auricle and ventricle were dilated. But as night was coming on, and the friends becoming impatient, we were prevented from making a more minute examination.

Remarks.—This case is so far peculiar, as the tumour was for a long time supposed to proceed from the first rib and clavicle, although the man himself stated that it had come up by the effort of coughing. In the upper part, where lying in the neck, it appeared to have a sort of defined boundary or cyst, but in every other, it seemed to pass directly into the structure of the adjoining textures. The man, it was discovered, had been subject to dyspnœa and occasional hœmoptysis, for a considerably longer period than he at first mentioned.

CASE III. RETENTION OF THE PLACENTA.—INFLAMMATION OF THE UTERUS.—AUTOPSY.

Mary R., aged 40, a weaver's wife. *Nov.* 20, 1842.—A woman of rather delicate constitution, the mother of ten children, eight of whom died shortly after birth, a person who generally suffered a good deal in the latter months of pregnancy, sent this morning to the Dispensary. On visiting her, she stated that she had been in labour from Wednesday evening the 16th, to the evening of yesterday the 19th, when she was delivered of a child, which expired shortly afterwards. She complains of much pain and tenderness in the lower part of the abdomen, along with a griping pain at the umbilicus. She is frequently distressed by hiccup and retchings; lochia and milk suppressed; abdomen enlarged, tympanitic, and tender; countenance anxious; skin warm, and bedewed with perspiration; tongue furred and dry; breathing quick; pulse 130, small, and labouring.—*V. s. ad ℥xx.—Admoveantur hirudines xii epigastrio, et postea cataplasm. sem. lini.—enema ol. terebinth. et ol. ricini.—Calomel gr.iij, opii gr.ss. secundâ quâque horâ.*—4 P.M. Blood buffed and cupped; p. 100; feels easier. 9 P.M. Pain still easier.

Nov. 21. 9 A.M. Pain more severe; features sunk, sallow, and extremely anxious; skin cold; pulse scarcely perceptible.—*Warm fomentations, ammonia, brandy, beef tea, &c.* She died at 3 P.M.

Autopsy.—23 hours after death.—The body presented a very exsanguine appearance; the abdomen was excessively distended; convolutions of the intestines appeared almost to project; a considerable quantity of fat below integuments; the great omentum was partially covering the intestines, and presenting an injected appearance. The small intestines were glued together by recent adhesions, which were soft and easily broken down, with portions of fibrine floating upon them, in about three pints of effused serum. The mesentery was slightly injected in several places near the jejunum.

The stomach contained a quantity of soft pultaceous matter, and was marked by a dark mottled appearance, implicating all the coats on the anterior and posterior surface, near the lesser curvature: this was probably produced after death: the mucous coat was slightly softened. The liver was normal; the gall-bladder was distended; several dark spots were also on the colon and smaller intestines.

The uterus was contracted and bloodless; at the anterior part of the fundus it was slightly injected, of a vermillion hue; the Fallopian tubes were livid, injected, and much softened at their fimbriated extremities; the cavity of the uterus was about three and a half inches broad and six long, nearly filled with clotted blood, with a portion of the placenta adhering to the left side of the fundus, softened, easily broken down, and detached from the uterus; the vessels of the uterus passing into the placenta were filled with hardened dark coloured coagula, projecting about a line; the remaining portion of the uterus presented a bleached appearance when the blood was wiped off.

Remarks.—This case affords an example of the mischief to which our labouring population are exposed by the ignorant violence of the midwives who attend them. We were told that the after-birth had come away entirely; and it was only after death that we learned that considerable violence had been used in removing it. The mottled appearance of the stomach, which appeared as if sprinkled with ink sparked from a pen, was probably owing to the action of the ammonia after death.

CASE IV. INTERNAL HERNIA.—AUTOPSY.—JUDICIAL INVESTIGATION. —James Little, aged 6½. *Tuesday, January* 23, 1844. 12½ *meridie.*—He went to bed on Sunday evening, apparently well; and when in bed took some tea about nine o'clock; about two o'clock on Monday morning his mother found him writhing about with his legs in bed, and complaining of pain in his belly: vomiting soon came on, and he has continued ill ever since; his bowels have not been moved, and he has made no water; he has taken some castor oil and senna tea, which he vomited, as well as every thing else that he has had since; the bowels were moved on Sunday, and his mother thinks that they were loose last week, but he was running about and did not complain when questioned.

His countenance is pale and excessively anxious; he complains of severe pains in the bowels; his legs are drawn up to the abdomen, which is excessively tender, swollen, and tympanitic; the pulse is weak and quick; he complains of headach, and says that a boy struck him with his closed fist on the head on Sunday:—he has been occasionally delirious. He was ordered leeches, warm fomentations to the abdomen, a terebinthinate enema, and calomel powders. He died in the course of an hour. The leeches had been applied; but he had not got the medicine. In consequence of a statement that the boy had been severely kicked in the belly, an inquest was held on the Thursday, at which it appeared that he had been kicked by a boy twice his own age,—that he had fallen from the blow, and that he afterwards complained of being unable to walk for some time. The coroner's jury brought in a verdict of manslaughter against the other boy.

Autopsy.—Thursday, 25th, meridie. The body appeared generally healthy, but rather thin,—the abdomen was very much swollen and discoloured, of a dark livid hue, especially on the right side and above the pubes. This discoloration extended about two inches down the thighs, and though probably in a great measure the result of very rapid decomposition, was greater than I ever witnessed. On cutting through the integuments, the recti muscles and the cellular tissue between them, and the peritoneum, were found gorged with blood for some inches above the pubes. At this point, and especially toward the right iliac region, the peritoneum was very dark coloured; the cavity of the peritoneum contained about twelve ounces of blood, partially coagulated; the great omentum, which was somewhat discoloured, and attached to the parietes by recent adhesion, did not descend far, and allowed the small intestines to be seen; about twenty-six inches of the ileum were entirely black and gangrenous,—about ten inches of it being strangulated by a loop formed by a diverticulum of the ileum. This irregular process originated from the ileum, about twenty-three inches from the cœcum; it passed across a portion of the mesentery and ended in a round band which passed below a layer of the peritoneum to another coil of the intestines, but was not pervious. The pouch itself was about three inches long. About three inches above this pouch, and as far as the caput cœcum, the ileum was completely gangrenous; the ileo-cœcal valves and a portion of the cœcum were also involved in the mortification, as was also the processus vermiformis, which was bound down by a recent adhesion; the mesentery going to these parts was loaded with blood in a coagulated state, and on one portion there was adherent a fibrinous coagulum, about the size of a filbert, leaving a roughness when detached, and being probably the place from which the blood was effused into the peritoneal cavity. The stomach, liver, and abdominal viscera, were healthy; the remainder of the small intestines were healthy, except on their peritoneal coat, which, on the edges of the convolutions, as also on the arch of the colon, was somewhat reddened, and displayed the appearance of recent inflammation; the mucous membrane and the contents of the intestines, except in the strangulated portion, appeared healthy; the intestines were enormously distended,—the strangulated portion was very soft and gave way easily, pouring out a quantity of dingy red fluid, apparently a mixture of blood with the mucus of the intestine. Some of the mesenteric glands were rather enlarged, but otherwise there was nothing to indicate mesenteric or chronic mucous disease. On hardening the parts in spirit, the mucous membrane appeared to have been entire throughout.

Remarks.—It is probable that the hernia had existed for some time. The boy had been sick occasionally, and he vomited his supper on the Friday evening,—he had been running about and excited during the day, and, in all probability, the vessels of the part were congested. In such a state, a slight degree of violence would probably cause the strangulation and effusion of blood. The defence set up at the assizes was, that he might have received a blow in a crowd where he had been just before he received the kick. The verdict was, Not Guilty.

ARTICLE III.—*Contributions to the Statistics of Tracheotomy; with Remarks.* *By* JAMES WATSON, M.D., *Physician to the Glasgow Royal Infirmary.*

Simple and safe as bronchotomy may be, yet any interference with a part so obviously essential to life as the wind-pipe, occasions a natural repugnance on the part of patients to such an operation. Nor is the medical attendant always free from a participation in this repugnance:—not that he fears the operation itself, but he too frequently finds himself unable to speak with confidence as to its ultimate result, in reference to the disease seeming to demand it, from so many of the cases operated on having terminated unfortunately, either from their having been improper for interference, or interference having been too long deferred. It is this that has occasioned such scepticism in the profession as to the actual utility of the operation. And excepting in acute laryngitis in adults, œdema glottidis, or foreign bodies in the trachea, where the course of conduct is plain, there perhaps exists more indecision in regard to bronchotomy than most other operations in surgery.

There is no way in which this indecision can be removed, but by the accumulation of evidence as to the actual results of the operation, especially where the previous circumstances of the patient leading to its recommendation can be well ascertained. As a contribution to such evidence, I have been induced to publish the following cases, which occurred recently in the clinical wards under my charge. These, I need hardly remark, are all the more valuable for being hospital cases; as from the publicity of their treatment, the accuracy with which their histories are kept, and post mortem appearances are noted, they are less likely to be marred by omissions and mis-statements than when extracted from a practitioner's private case book. We all know how apt such omissions, &c. are to creep into cases not noted at the very bedsides of the patients, notwithstanding every wish and intention to avoid them, from imperfect recollections, opinions, and preconceived views getting mingled up in the narrator's mind with the actual facts, even within a very few days after their occurrence.

The cases in question are three in number. The operation of tracheotomy was performed in two of them with perfect success, whilst in the third the patient died. We have a report of the post-mortem appearances in this latter individual. The patients were all adults, and their symptoms remarkably similar; which was striking enough, seeing they all occurred within the short period of four months. Their disease was somewhat of the character of chronic laryngitis, but connected with syphilitic sore throat, and partaking latterly of a more acute character, involving the immediate safety of the patients, probably in consequence of cold. This complication with syphilis, affording the hope that much of the chronic constriction of the glottis might be occasioned and kept up by irritation extending from the ulcerated fauces without seriously implicating the respiratory apparatus farther down, was supposed to hold out a reasonable prospect of the operation not only prolonging the patient's life for a few days, but even of contributing towards the final and complete restoration of health. How far this expectation was reasonable, or the operation imperatively demanded by the circumstances, will be best gathered from the cases themselves. They are given as nearly as possible as recorded in the hospital journals,—the daily reports of state and treatment being merely abbreviated.

CASE I. Adam Esplin, aged 30, a carter, was admitted 30th Dec. 1843. He complains of sore throat, which he has had for six months. On examination, the left side of the soft palate is found completely destroyed, the uvula elongated, dark coloured, and ulcerated at its root; the right side of the palate and tonsil is much swollen and ulcerated. He had primary sores ten years ago, for which he had no mercury; but was salivated about a year ago for some affection of the throat similar to the present. He has considerable pain in the larynx; respiration is performed with difficulty, and is sometimes nearly obstructed, apparently from a copious thin slightly purulent-looking discharge which he is constantly hawking up. Articulation indistinct, and whispering; appetite good; pulse 80; tongue foul; bowels costive.

For the first ten days after admission this man improved somewhat. He was leeched over the pomum Adami, with marked relief; had two small issues formed by caustic potass, one on either side of the larynx; he got anodynes; his mouth was very slightly affected with mercury, and the ulcerated points were occasionally touched with nitrate of silver. About the 10th of January, however, he again became much worse, probably from cold, as the weather was inclement, and for three days and nights his distress was very great, and increasingly so. It was impossible for him to assume the recumbent position. His inspirations were painfully laborious. His articulation, which had improved, again became exceedingly indistinct, and his cough incessant. His appetite also failed, and his strength was much prostrated.

In these circumstances, at a consultation on the 13th January, it was thought necessary to open the trachea. This was done by Dr Pagan, surgeon to the hospital, about half-past one P.M. At half-past three, the following report was dictated.—Stood the operation well; at present, breathes with comparative ease, although much thin mucus is constantly being expelled from the wound by coughing. The pulse is 80, and of good strength. The bowels were opened prior to operation. Was ordered beef-tea injections, with laudanum; arrow root, and a little wine.

14th. Passed a better night than for several weeks. Breathes freely by the wound; swallows easily. The enemata are now to be discontinued.

15th. Continues to improve. Pulse 60; slept well, nearly in the recumbent position; breathes easily by the wound, and coughs much less. The fauces are somewhat improved, but still red, swollen, and ulcerated at the root of the uvula. These ulcers were touched from time to time with nitrate of silver, and a drachm of iodide of starch was ordered thrice daily. This medicine he had merely commenced before the operation, when it was intermitted.

23d. In all respects he is greatly improved. Percussion and stethoscopic sounds are nearly natural. Prior to the operation, percussion was good, but the respiratory sounds were harsh and sonorous. Yesterday a small hard substance was coughed up, said to resemble a fragment of bone, but it was unfortunately lost.

14th February. The tube has been removed for some days, and the wound perfectly healed. The fauces are free from disease. He breathes with perfect ease through the glottis, and the speech is said to be nearly as distinct as in health, he always having been somewhat hoarse.—Dismissed cured.

CASE II. William M'Millan, aged 38, a currier, admitted 20th March 1844. He has had sore throat for two or three months. The soft palate is completely destroyed, and the tonsils much ulcerated, and covered with a thick coating of muco-purulent exudation. Shortly after the commencement of the sore throat, the breathing became difficult, and has since become gradually more and more so, especially during the last week, within which time there has been a very great increase in the intensity of the symptoms. At present, the respiration is loud, stridulous, and performed with great effort. He cannot lie down. His articulation is whispering and indistinct. There is considerable tenderness over the larynx. He has had severe cough for about six weeks. Percussion is nearly natural; respiratory sounds are loud and harsh. He had syphilis three years ago, when he used mercury to some extent, but has taken none since. Previous to the present attack, he never had sore throat, nor other secondary venereal symptom; but the skin is at present covered with a foul rupia-like eruption. The pulse is 116; the tongue is clean; the bowels are open; the patient is in a very debilitated state.

I saw him in the waiting-room, and considered him in a state of great danger; but as Esplin had been much relieved by leeches over the larynx, I ordered the same treatment, intending to see him in the evening. About 7 P.M., I was summoned to the hospital, and expecting that the operation would be immediately required, I requested Dr Pagan to accompany me, which he kindly did. We found our patient, however, somewhat relieved. The leeches were bleeding freely, and the breathing was less difficult. The operation was deferred; a blister was applied between the shoulders, and hydriodate of potass ordered.

21*st*. He has had a very bad night. To-day the respiration is again exceedingly laborious; and the patient is losing strength. At a full consultation tracheotomy was determined on, and performed by Dr Pagan, at half-past 1 P.M. The patient stood the operation pretty well. At half-past 3 he still continued tolerably easy; the breathing by the wound was free, but the quantity of mucus was troublesome; the pulse was 124, rather small, and soft; but the heat of the body was natural. He was ordered wine, beef-tea, and arrow-root jelly, frequently, but in small quantities. Finding that the matter which escaped by the wound occasioned much irritation, I ordered the food to be introduced by the stomach pump; thus a moderate amount of wine and nourishment was easily administered with much apparent refreshment and increase of strength. This plan was ordered to be continued from time to time; but notwithstanding every exertion, the patient lost ground, and died about seven that evening.

Autopsy, twenty hours after death.—The epiglottis was partly destroyed by ulceration, the remainder was much thickened, and very rigid. The rima glottidis was almost obliterated by the excessive thickening and infiltration of the neighbouring parts. No ulceration, however, below the root of the epiglottis could be detected; and excepting that the lining membrane was a little redder than usual, the trachea and bronchi were free from disease. The lungs were œdematous, and the bronchial tubes contained a large quantity of frothy mucus; the liver was enlarged, and unnaturally firm. With these exceptions, everything was natural.

CASE III. Margaret Campbell, aged 22, married. Admitted 24th April 1844. About two years ago, she had the primary symptoms of syphilis, and shortly afterwards she had an eruption over her body. At this time she took some pills, supposed to be mercurial, with benefit, but has remained in an impaired state of health ever since. About six months ago, after exposure to cold, she was seized with severe pain of the throat, cough, and dyspnœa, which symptoms have gradually increased, but have been especially aggravated during the last month. At present the fauces and soft palate are much swollen and ulcerated; the uvula is hanging loosely, almost dissevered from its attachment; the breathing is quick and laborious; inspiration is stridulous, and obviously accompanied by a painful effort; the voice is whispering; she coughs incessantly, and has a scanty watery expectoration; the sound elicited by percussion is tolerably clear; the respiratory murmur is very indistinct; the lips and face are livid; the pulse is 136, and very feeble; she has alternate chills and perspirations; the bowels are regular; the appetite is said to be good, but she swallows with great difficulty; her appearance indicates much debility.

After being in the house two days, during which time her throat was touched with nitrate of silver, and hydriodate of potassa, opiates and a little wine administered, her situation became so distressing, that a consultation was held, and tracheotomy recommended. She refused to submit at the time.

Next day, the 27th, about one o'clock P.M., she appearing to be *in articulo mortis*, the operation was performed by Mr Baillie, physician's clerk. She continued for several hours in a state of great exhaustion; but at present (about half-past four) she breathes freely by the tube, having coughed up a very large quantity of thin mucus. She has taken about four ounces of wine, which she swallows easily, and seems considerably revived. The pulse is 128, and still feeble. The colour and expression of countenance have, however, much improved; and she indicates by signs that she feels comfortable. She was ordered twenty-five drops of laudanum immediately, with a little wine, and other suitable nourishment, from time to time.—8 *o'clock*, P. M. The pulse is 120, and rather firmer. Has had a quiet sleep from the opiate. She still occasionally coughs up mucus; but on the whole respires freely by the wound. The respiratory murmur over the chest is much more distinct.—The draught is to be repeated at midnight; and the wine and nourishment are to be continued.

28th. She continues to improve. The pulse is 120, and of good strength. Her respiration is easy, though the cough is still troublesome. She takes her food very well. The draught and wine were ordered to be continued, and half a blue pill to be taken thrice daily.

May 2. Has gradually improved. The pulse is 96. The fauces are healing rapidly.

8th. She breathes quite easily by the tube, and speaks audibly, though in a low tone.

16th. The ulceration of the fauces is nearly cured. The pulse is 96. She breathes easily, and speaks distinctly, and pretty loudly, when she puts her finger on the tube.

27th. The ulcers and the fauces are healed. The breathing and speech are more easy and louder when the orifice of the tube is closed than for several weeks before the operation. The tube was directed to be closed by a cork occasionally for an hour or two, for two or three days before its final withdrawal. Though not dismissed, she may now be considered as cured.

These cases, it is presumed, speak for themselves as to the propriety of the operation; and the only regret is, that in the fatal one it had not been performed earlier. Had this been done, I have no doubt, from the state of the trachea, and even of the lungs, that the issue would have been equally successful as in the other two. The trachea was sound; and the congested state of the lungs would in every likelihood have been got rid of, when the obstruction to the ready admission of the air was removed. The rigid and half-destroyed epiglottis would no doubt have made the administration of nourishment more difficult than in the other cases; but in time this rigidity would probably have given way, and the parts got accommodated to the want of protection afforded by that organ in its perfect state.

On the foregoing cases I would remark;—

1st, That it is important practitioners should bear in mind, that in syphilitic sore throat the upper part of the larynx is apt to become the seat of disease as well as the fauces; and that hence the most grave consequences to the patient are to be dreaded. The progress towards such a state is generally slow, but may at any time be developed or accelerated by cold. A watchful care, therefore, ought to be exercised over patients whilst in this hazardous position; and if such an extension of the disease should take place, so as materially to impede respiration, thus placing the patient's life in danger, and speedy benefit be not derived from more ordinary curative means, the trachea ought to be opened, in the full assurance that, if done before the powers of life are not too far exhausted, a successful issue may be counted on.

2dly, That even where, from neglect, or the opposition of the patient, the operation may have been imprudently delayed, we must not be too readily deterred from operating, by suspicions as to the state of the lungs, or the strength of the patient. In so far as the above cases go we are warranted in operating, even although appearances should be very unfavourable. In all of them, the dyspnœa had been great for weeks,—the threatening of suffocation for the last few days had been extreme,—and in two, the pulse was very quick, and the debility alarming. Yet two out of the three recovered without any bad symptoms; and in the third, the autopsy, as already remarked, discovered nothing to forbid the operation.

3dly, In these, and similar cases, it is unquestionably a most important circumstance in reference to the propriety of operating, that the affection of the glottis is the consequence of an irritation descending from above. This circumstance places a clear line of demarcation, in point of prognosis, between such a class of ailments and those others in which occlusion of the rima glottidis is either subsequent to, or nearly simultaneous with, diseased states of the trachea and bronchi, as is not unfrequently, if not always, the state of matters in the ordinary chronic laryngitis of adults, and the acute laryngitis of young subjects, usually called croup. In such cases, the same success is not to be anticipated from bronchotomy. In ordinary chronic laryngitis, life perhaps may be prolonged by the operation, for a few days or weeks, but this disease seldom exists without incurable derangements of the bronchi and lungs accompanying, if not preceding, and altogether irrespective, in their origin and progress, of the constriction of the glottis. And, as there can be no change of circumstances effected by the operation calculated to arrest or remove states not dependant on such constriction, so it must happen that surgical interference can do nothing more than very triflingly postpone, if by its shock it do not actually hurry, the otherwise inevitable fate of the patient.

Neither can I see any thing in bronchotomy calculated to benefit the patient in common croup. This is not a disease of the rima glottidis merely, but when at all severe, nearly simultaneously of the trachea and bronchi to their minutest ramifications. No doubt, from the smallness of the rima, and indeed of the whole trachea in children, the suffocative symptoms are the most striking, but the disease would be quite competent to kill, if we could suppose such a case, although the rima were not at all obstructed, from the immense extent of the inflammatory irritation, and the barrier presented by the false membrane to the due oxygenation of the blood. And although convalescence in some cases is connected with the expulsion of this false membrane, yet this event is rather the consequence of a return of the bronchial surface to a healthy state, than a cause. The powers of the constitution or judicious treatment may have effected this amelioration; and whether the operation were performed or not, the issue would have been the same. The membrane, if disengaged from the bronchial surface, would be easily expelled; if not disengaged, the operation could do nothing towards facilitating this expulsion, and even little towards admitting the air into the bronchi, at least so as to act beneficially on the system. I am afraid, in most cases of this description, I would almost say in all, the operation can only add a frightful and most annoying aggravation to the suffering of the little patients. I have now been party to three or four operations in cases of common chronic laryngitis and croup. The patients all died, and I am persuaded that it would be well were the profession to repudiate bronchotomy in these diseases, especially in the latter. Its being mooted at all as a possible means of giving relief, places the whole parties concerned in a most unpleasant attitude, viz., of hesitation between a desire to leave nothing undone, and a resorting, on the merest chance of benefit, to an operation which in nineteen cases out of twenty will do harm, by increasing the bronchial irritation, —not in one case in a hundred will it ever do good, and the want of success in such unsuitable cases, prevents its adoption in others, where the probability of its being of use might be greater.

4th, Were I making an exception to the above general rule, it would be in respect of laryngitis in young subjects, consequent on diphtheritic affections of the fauces, and in scarlatina anginosa. I look upon such cases as in some respects resembling those which are the subject of our present remarks, more especially in the important particular of the glottis being affected in consequence of an extension of the disease from above, and the probability being great, that the affection of that part, although sufficiently severe to implicate the immediate safety of the patient, might not be accompanied by an equal amount of disease in the trachea or bronchi;—thus differing from common croup, where, in urgent cases, the whole lining membrane of the larynx, trachea, and bronchi, is nearly simultaneously and equally affected. I only recollect one case, however, in which this operation was performed in such circumstances. It occurred to me, so long ago as June 1821, but, though the interesting nature of the case was sufficient to impress its circumstances deeply on my recollection,—its having been the occasion of suggesting to my mind a mode of treatment in such diseases, which has since, in my own hands and in those of many others, done much good, has contributed to fix it still more deeply. It was a fine boy of about 11 or 12 years of age. He had this diphtheritic affection of the fauces, and it spread to the glottis. The distress was so great that tracheotomy was performed. He was greatly relieved by the operation, and lived after it ten days, when he died very unexpectedly, after giving good hope of a complete recovery. Erysipelas seized the wound and its neighbourhood, from which he almost immediately sank. On reflecting on this case, after the patient's death, it struck me that caustic applied to the diphtheritic spots on their first appearance, might have cured them, or checked the tendency of the diseased state of the mucous lining of the fauces to spread, and as the solid caustic would have been inconvenient, from the irregularity of the surface to which it required to be applied, I naturally concluded that this would have been easily effected by dissolving the caustic and applying it by means of a small brush. So far as I know, this was the first time this simple and obvious remedy was thought of in such cases. I henceforth used it myself wherever it was indicated, and recommended it to all my medical friends. Since then it has come into common use, and I believe has cut short many such affections, and by preventing extension to the larynx, removed the necessity of having recourse to tracheotomy. Where, however, such an extension does occur, as I have already mentioned, I think this operation holds out much hope, not only of warding off immediate dissolution, but of contributing to an ultimate cure. The inflamed glottis is allowed to rest from the forcible attempts to respire through an insufficient aperture,—the system is delivered from the depreciation of all its functions, caused by imperfect aeration of the blood,—time is allowed for the application of suitable remedies to the mucous lining of the fauces, and judging from analogy, any existing affection of the lungs, being only consequent on the disturbed state of the parts above, is likely to subside with the removal of the exciting cause, the patient's restoration to health becoming highly probable.

5thly, and lastly, The rapidity of the convalescence of the successful cases deserves notice. In a month, Esplin was dismissed cured; and Mary Campbell, although the removal of the tube would have been imprudent, could breathe and speak tolerably by the glottis, and the ulcerations of the tonsils and soft palate were cicatrized. Yet in both these cases the affection of the throat was of six months' duration, the ulceration extensive, and the occlusion of the glottis extreme. No doubt this rapid restoration, for it was too rapid to be the result of the medical treatment, was greatly owing to the parts being relieved from the incessant coughing, straining for breath, and retching to clear the glottis from obstructing mucus, incident to the state of the patients before the operation; but also, and I have no question, mainly in regard of the ulcerations, from the constitution being delivered from the pernicious effects of the state of slow asphyxia to which these individuals were subjected from these unfortunate circumstances.

In whatever way, however, this may be explained, we are certainly entitled in similar cases, to anticipate a speedy as well as complete restoration to health from the operation; and to urge it on our patients with considerable confidence. In reference also to other malignant and intractable ulcers of the phagedenic character, important from their extent and perhaps position, although not in the fauces, we will at least have probability on our side, when we impute their difficulty of cure to some error in the constitution of the blood, resulting from the operation of causes, somewhat similar in their effects, though not in their way of acting, to the above.

It may be, for instance, that the portal circulation being languid, the liver may be impeded and disturbed in the efficient discharge of its duties, and the blood, in consequence, be forwarded to the lungs in such a state of impurity as to place it beyond the possibility of being sufficiently decarbonized for supporting the healthy action of the vital functions. In this manner, the whole system must become disordered, and every morbid process, including venereal or other ulceration, be aggravated and rendered more unmanageable. Hence the propriety in such cases of freely unloading the bowels, lightening the circulation by means of diuretics and antimonials, and if need be, by general bleeding. This latter remedy is often a powerful adjuvant in such cases, not only by diminishing general fever, but more particularly by removing such local congestions as may exist, and thus restoring a more healthy state of the circulating mass. In proof of the beneficial effects of depletion in many such cases, I might appeal to the experience of most practitioners of standing in point of years, who must have seen accidental hæmorrhages not unfrequently prove salutary. I myself have seen two remarkable instances of this kind, in one of which the ulcer situated in the groin was of amazing breadth and depth. The femoral artery was seen throbbing at the bottom in a most alarming manner, and was expected daily to be perforated. A sudden arterial discharge did take place, not in any likelihood from the main trunk, but certainly from some immediate branch of large size. Preparations had been made for it. The hæmorrhage was stanched; and from that hour the patient began to recover. Such occurrences may not admit always of imitation; but certainly they gave my mind a bias in favour of bleeding generally and locally in similar cases, wherever the circumstances of the patient might otherwise admit of it, and I have no hesitation in stating, very frequently with the most salutary effects.

152, ST VINCENT STREET, GLASGOW,
4th June 1844.

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ARTICLE IV.—*Observations on the Value of the Chemical Tests of Diabetic Urine. By* W. T. GAIRDNER, ESQ., *Edinburgh.*

In a paper on the tests of diabetic urine, reprinted in the Periscope of the May number of the MONTHLY JOURNAL, from the *London Medical Gazette*, Dr Golding Bird has described the most notable of the tests which have been proposed; and indicated the reliance to be placed upon each. They may be shortly noticed as follows:—

1. *Hünefeld's test*, founded on the power of sugar to de-oxidate chromic acid, is considered to be so fallacious as to be wholly unworthy of confidence.

2. *Runge's test*, which consists in the development of a black colour by a drop of sulphuric acid. A small portion of the urine is evaporated on a white surface, and the acid, diluted with five or six parts of water, is then applied to it while yet warm.

3. *Trommer's test.* As this will be described in the sequel, it is unnecessary to do more than mention it here.

4. *The fermentation test.* Diabetic urine treated with yeast, and left for a few hours in a warm place, becomes troubled, and covered with a frothy scum; at the same time it disengages carbonic acid gas, which being collected and measured, indicates the quantity of sugar, one cubic inch corresponding nearly to a grain of sugar.

5. *The microscopic test*, which depends on the development in urine impregnated with sugar, of minute ovoid particles, the spores of a confervoid or fungoid vegetation which attends on the vinous fermentation in all saccharine fluids.

Dr Bird does not make mention of the test by the formation of oxalic acid, which might have made a sixth, but for the difficulty of distinguishing in very small precipitates, between the oxalate of lime and the phosphate, or a mixture of this latter salt with the oxalate.

Setting aside Hünefeld's test as inadequate, and considering the microscopic test as secondary to that of fermentation, to which it is certainly a most valuable adjunct, the order of preference in which Dr Bird places the chemical tests of sugar in diabetic urine, is, 1st, Trommer's; 2d, Fermentation; 3d, Runge's.

It is of course of great importance to have correct ideas upon the relative value of these tests; and as the principal object of this paper is to bring forward some observations which tend to invalidate Trommer's test, I shall, previously to entering on this subject, make a very few remarks on the other two.

The fermentation test is not liable to any obvious source of fallacy, and it is one of peculiar excellence in this respect, that it furnishes us with a very accurate and simple means of estimating the amount of the sugar, if this should be desired. As it requires a few hours, however, for its application, it is not always very convenient. As I have not had an opportunity of examining the microscopic test with sufficient care, I prefer to pass it over without remark.

Runge's test is best performed in the following manner; the urine should be evaporated on a white plate over a vapour bath, or carefully with very gentle heat, as it is difficult to avoid charring, if the proportion of sugar be considerable. A drop of the acid, diluted with six parts of water, should next be applied; and then by moving the plate two or three times backwards and forwards over the flame of a spirit lamp, the black hue is brought out in a spot with clearly defined edges, if there be any sugar present. Albumen is mentioned as a source of fallacy in this test, the colour produced being similar; but by testing previously for albumen, this error can always be easily avoided.

Trommer's test is described as follows:—"Add to the suspected urine, contained in a large test tube, a few drops of a solution of sulphate of copper; a very inconsiderable troubling generally results, probably from the deposition of a little phosphate of copper. Sufficient *liquor potassæ* should then be added to render the whole strongly alkaline; a greyish-green precipitate of hydrated oxide falls, which if sugar be present, wholly or partially re-dissolves in an excess of the solution of potash, forming a blue liquid, not unlike the blue ammoniuret of copper. On gently heating the mixture nearly to ebullition, the copper falls in the state of suboxide, forming a red and copious precipitate. *If sugar is not present, the copper is deposited in the form of black oxide.*" (See Dr Bird's paper.)

In repeating this test with various healthy urines, and also with diabetic urine, my suspicions as to its accuracy were awakened by finding that in two specimens of perfectly healthy urine, a precipitate was obtained by Trommer's process, which in colour and appearance was entirely different from the black oxide of copper. The precipitates in question were in rather smaller quantity than usual, flocculent, and of a light orange colour, and were surrounded by a fluid deeply tinged with orange. On adding sugar to a portion of one of these urines, and subjecting it again to the test, the precipitate which resulted differed in no perceptible degree from the former. The precipitate in the diabetic urine on which I operated, (which was very strongly saccharine,) differed from these in being much more abundant, and somewhat brighter in hue; but the colour was essentially the same in both, viz. deep yellowish orange. I have since obtained the same result as above from various other healthy urines, indeed it seems to be by no means uncommon.

The fallacious nature of the test, which appears to be clearly indicated by these observations, receives, moreover, additional evidence, and perhaps in part explanation, from the following circumstances.

1. The phenomena on which Trommer's test is founded may be observed by performing it on pure water, and on a solution of sugar. If to pure water in a test tube, barely tinged with a few drops of solution of sulphate of copper, potassa be added drop by drop, the first effect is a greenish blue precipitate, which on the addition of more potassa begins to be redissolved, communicating a blue colour to the solution. Before the liquid has become entirely clear, a second precipitate begins to be thrown down of an indefinite grey-green colour, and much smaller in quantity than the first; and if the addition of potassa be stopped at this stage, and heat applied, a green precipitate first appears, and on boiling, the black oxide is thrown down in considerable quantity. On the subsidence of the precipitate, the surrounding fluid is left colourless and transparent. If sugar be present in the water operated on, the first precipitate of the potassa is completely redissolved by excess, without the deposition of any second precipitate; and on boiling the transparent blue solution which thus results, no change takes place at first; but by continuing the boiling for some minutes, the red protoxide is deposited at first in minute quantities on the sides of the tube; the greater part of the liquid, however, *remains unchanged*. This experiment may be taken as showing the test of sugar in the simplest possible form, uninfluenced by anything which might disturb its action. But it is remarkable that the changes in diabetic urine on the application of the test, proceed in a different manner, and end in a different result, from those described above as taking place in the solution of sugar. In this case, on heating the blue solution, (the preliminary steps having been gone through), it changes colour rapidly and suddenly to orange; and instead of the precipitation

of a minute quantity of protoxide after some minutes' boiling, from a liquid for the most part unaltered in colour, there is immediately a large orange-coloured precipitate deposited, of a different appearance from the protoxide, and much less prone to subside. The changes which I have described as sometimes occurring in healthy urine take place in a way very similar to this. These circumstances appear to show that it is not the sugar alone which is concerned in the changes in diabetic urine. The following observation proves this yet more strongly.

2. The tendency of sulphate of copper to form peculiar compounds with organic principles of all kinds, and the extremely various results when such compounds are submitted to Trommer's process, is another circumstance which tends to induce a suspicion of the fallacious character of this test. Thus a dilute solution of albumen (white of egg) gives a dark brown precipitate when treated by Trommer's process; a single drop or two of tincture of galls gives a red or purple precipitate in a brownish liquid; and a greatly diluted portion of skimmed milk, gives a gold-coloured precipitate in a bright green liquid. I mention these not as having individually any peculiar relation to the present subject; but because when taken together they show the strong tendency to the formation of peculiar precipitates by Trommer's process, when there is any organic matter present. One of these combinations, however, is worthy of particular notice; it is that with uric acid. The compound of this substance with copper may be procured by boiling a little uric acid in a dilute solution of sulphate of copper; the blue colour disappears from the fluid, and the compound is precipitated. If now, a little of this compound be acted on by potassa, or better, if a little uric acid diffused in water be subjected to Trommer's test, as before directed, a peculiar precipitate will be obtained on heating, differing in different cases according to the quantity of uric acid, and probably also according to some unascertained circumstances. It is sometimes nearly white, sometimes more or less of a yellow colour; and in more than one instance I have procured a precipitate of precisely the same appearance as that which I had formerly obtained from diabetic urine.[1]

I am not aware whether this is the only substance found in urine which alters the results of this test; but I have been informed by a friend that urea does not affect it in the slightest degree. However, when this observation regarding uric acid is connected with what has been said above, I think it will appear probable, that the precipitate thrown down from diabetic urine by Trommer's test is not uncombined protoxide of copper, but that both in this case and frequently in healthy urine, that precipitate is the result of a combination of the oxides of copper with various animal matters which occur in the urine. At all events it is pretty clear from the experiments which I have described, that this precipitate cannot by any means be relied on as a test of sugar in urine.

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[1] It is worthy of remark, that Dr Simon's precautionary measures, given in Dr Bird's paper, do not affect this source of fallacy; they will remove the urea, but not the uric acid.

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Article V.—*Remarks upon the Early Condition and Probable Origin of Double Monsters. By* Allen Thomson, M.D., F.R.S.E, *and Professor of the Institutes of Medicine in the University of Edinburgh.*

(*Concluded from p.* 490 *of June number.*)

In the preceding part of this paper, an attempt has been made to distinguish the different forms of double malformation, and a description has been given of the appearances presented by some rare instances of them which have been observed at an early period of their development. It now remains to make a few remarks upon the theories which have been proposed to explain their origin.

Three speculative views have been taken of this subject. 1st, The double monster has been supposed to have proceeded from two distinct germs, which have become united in the course of development; 2d, It has been held to have originated in a single germ, which has become double or has been subdivided; and, 3d, The germ has been regarded as abnormally compound from the first, implying that the organs and parts composing the double monster are at once produced from this germ, without either separation or coalition of its parts, other than belong to the natural process of development. The last view appears to be more in accordance with our knowledge of embryology than either of the two before mentioned, and a few considerations connected with the structure and mode of connection of the two component individuals in double monsters, show that it is the only tenable hypothesis of their origin.

The various forms of double malformation, considered with a reference to the theory of their origin, may be distinguished into two sets; in one of which the united embryoes, or, if they are not complete, the parts composing them, have arrived at a nearly equal degree of development; in the other, an imperfectly formed body, or a part of one, is either attached to or inclosed in a more perfect embryo. This last set includes the various forms of Parasitical and Inclosed double malformations. The unequal development of the parts in the last mentioned malformations, and the atrophy which the uniting portions, especially of the Parasitical or Inclosed redundant parts appear frequently to have undergone, occasion peculiar difficulty in the investigation of this class of malformations, and make it necessary that I should restrict my remarks chiefly to that class which may be termed of Equal Double Malformation. If we regard, however, as I am inclined to think we are warranted in doing, these parasitical and inclosed parts as not essentially different from the altered remains of a portion of a double monster, or as bearing to the more developed portion with which they are united the same relation that the blighted fœtus of a twin conception does to the more perfect one, it becomes apparent that the same theory of formation may be applied to them, as seems adapted to the explanation of those monsters in which the corresponding parts of the two united individuals are equally developed.

It has not been my intention here to enter upon the discussion of the question whether, as Serres would persuade us, the development of any part depends upon the presence of its appropriate blood-vessels; or whether, as Tiedemann holds on better grounds, it is in more close relation with the presence of a determinate part of the nervous system. In the earlier portion of this paper, reasons have been given for regarding the superadded parts of all true double monsters as connected more or less immediately with a double state of the cerebro-spinal axis. Some examples of heteradelphic or parasitical double monsters, undoubtedly, appear adverse to this view; such, for instance, as that related by Mayer in Graefe and Walther's *Journal*, tom. x. cah. 2, in which the parasite consisted of a pelvis and well-formed inferior extremities, and these were attached to the sternum of a fœtus of the natural size; and in this instance it is remarkable that, besides that the blood-vessels of the parasite were branches of, or connected with, the internal mammary artery of the main fœtus, there was no appearance in the parasite of sciatic, crural, or obturator nerves, nor any vestige, it is stated, of a cerebro-spinal system. But the anatomy both of parasitical and of included double monsters is as yet too imperfectly known, to admit of our adopting any general view regarding them; and in both there is much reason to suspect the occurrence of considerable changes subsequent to their first formation; of atrophy perhaps or imperfect development affecting chiefly the original connecting parts. The development of the anatomical characters and functional properties of the textures, at least, is so incomplete in most of them, that there must always exist a great difficulty in establishing the nature of their connections. With regard to the blood-vessels, held by M. Serres to play so important a part, it may be admitted that without them any very large redundant part cannot be nourished, but it is sufficiently clear that we give the name of the blood-vessel somewhat arbitrarily according to the form of the organ in which it is distributed; and so great are the changes to which the blood-vessels are subject in earlier periods of development, that it appears of comparatively little importance for the determination of its connections, whether the artery appears at last as a branch of its corresponding vessel in the more perfect embryo, or is derived from another remote from it. This view is illustrated still farther by the condition of the vascular system in acephalous and acardiac fœtuses, in most, if not in all, of which it is well known the principal blood-vessels of the malformed fœtus are connected with those of another which is perfect.

The following arguments are among the more convincing that may be adduced in support of the view that double monsters are of original formation, and not the result of any secondary or accidental separation or combination of germs.[1]

1. The different varieties of double monsters form together a complete series of gradation from the smallest to the greatest degree of the double condition; and in this series, as in those of simple malformations, the forms are by no means infinitely varied, but on the contrary, though differing in degree, analogous deviations of structure are constantly returning; so as to give no countenance to the idea that any variation of external circumstances could determine either the manner or the degree of combination existing between the two component individuals.

2. In this combination of the two individuals or of some of their parts, the most remarkable symmetry is preserved; for there is not, as must undoubtedly have been the case, had adjacent fœtuses previously distinct become united, any appearance of the junction of parts fortuitously brought into juxtaposition; but on the contrary, an invariable union of only similar or corresponding parts in the two bodies. For the most part, that union is to an equal extent in the two individuals; and in the majority of those instances in which the duplicity is to so low a degree as to constitute mere redundance, the superadded part is not single or unilateral, but is rather median and common, and is formed by the combination or fusion, if we may employ such a term, of parts from both sides.

3. We observe in twin conceptions, the ova frequently pressed closely together, without any tendency to the union of the fœtuses. These circumstances are all opposed strongly to the view that accidental causes can have contributed in any considerable degree to bring about the union of the parts of the two embryoes, and point to a much more fixed and determinate mode of their production.

We cannot but admire the justness of the views contained in the following passage, taken from an interesting essay by C. F. Wolff, entitled, *De Ortu Monstrorum*, in the *Nov. Comment. Acad. Petropol.* vol. xvii. published in 1773,—a commentary not less remarkable for the accuracy of the embryological views propounded by the founder of the theory of epigenesis, than for a correct appreciation of the arguments adduced by his precursors with respect to the nature and origin of monsters in general.

"Patet igitur, monstra composita non sic oriri, ut aliquando duo separati integri embryones fuerint, qui deinde contingentes et compressi, partibus eorum nonullis destructis, aliis coalitis et commixtis, concrescerent in unum novum compositum corpus; ea vero, quæ vel defectu partium vel insolita structura monstra sunt, non ita fieri, ut prius integri et naturales embryones fuerint, qui deinde per causas accidentales ad generationem non pertinentes, mutilati vel transmutati fuerint; sed necesse esse, ut utraque monstrorum genera a primis suis initiis jam ejusmodi monstra fuerint."

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[1] See Bischoff's remarks on this subject, in Wagner's Handwörterbuch, already quoted.

At the same time, however, that it appears necessary that the compound parts of a double monster should be at once formed and developed as such from the monstrous germ in which they originate, it is obvious that the process of double or combined development which thus occurs must differ in some important respects from that which is natural in a single embryo; more especially in those instances in which fusion of the combined organs exists to a great extent. It is interesting here to observe, that while the development of the parts on the external or remote sides of two united embryoes may be quite or nearly natural, that of the intermediate or uniting parts must generally be of an anomalous kind; and in this point of view, it is not difficult to conceive how the development of adjacent parts in the two embryoes may be modified by the degree of proximity or the direction of the primitive germs. Imperfections of the formative processes, indeed, occur in these intermediate parts of double monsters; and thus we find, what at first seems almost a paradoxical statement, that double monsters present, in some of their parts, examples of malformation by defect, or fusion of organs and arrest in their development such as occur in simple monsters.

In the separate parts of double monsters, their development is independent, and may be natural,—in the united portions it is compound and abnormal.

At a time when the opinions of scientific men were divided between the theories of evolution and epigenesis, it might have appeared premature or even unwarrantable to draw any conclusion as to the origin of double monsters from the observation of their early condition, because it might be held by the partizans of the first of these theories, that the parts of the double embryo already existed though hidden from view; but now that modern embryological researches have established on a firm basis the epigenetic theory of development, we have acquired the means of determining almost with certainty, the amount of space occupied by each part from the moment of its first formation, their relation to each other, and the order of succession in which they make their appearance.

The second of the observations detailed in the present paper, is highly interesting as affording a demonstrative proof of what before could only have been regarded as probable, viz., that the rudimentary form or first trace of each embryo in a double monster is a simple groove, bounded on either side by dorsal plates, in the same way as in a single fœtus.

This specimen farther illustrates the influence which we may suppose to be exerted by the relative position of the two primitive traces, upon the form and relations of the two individuals composing a double monster; that is, upon the amount of duplicity, or the nature of the union which they may present. We know from observation, that a certain and determinate space of the germinal area, easily appreciable, is occupied by the rudiments of each of the primary fœtal organs, from the time of their first formation; and it follows from this, that unless a very rapid and strained separative growth were set up between the primitive grooves, the amount of duplicity either in the whole or in a part of the bodies, will be in some measure proportional to the original degree of separation of these primitive grooves in the whole or in a part of their extent. Should they lie so close together, that there is not space between them at any part for the deposit of the rudiments of the vertebral arches, the visceral plates, or the amniotic folds of the germinal membrane, then a deficiency, or fusion as it is termed, of more or less of the parts formed from these or other rudiments, must be the consequence. An imperfect intermediate part results, to the production of which the formative tissue belonging to each embryo will contribute, and that usually in an equal degree; and in this common or intermediate part of the combined embryoes, which may be very small, or may extend over a number of important organs, the union observed is the effect, therefore, not of the actual combination of two organs, but of the simultaneous development of the combining parts.[1]

A close proximity of two primitive grooves along their whole extent may be regarded as very rare, from the non-existence of any undoubted instance of complete union of the two individuals composing a double monster along the spinal columns.[2]

In other cases, the cephalic or caudal extremities of the primitive grooves may come into close juxtaposition, or even run into one, to a greater or less extent, and thus constitute the rudiments of the more common forms of double monsters; but in all there is reason to believe in the existence of two primitive traces, or parts of two, in order to constitute the rudiments of a double monster.

A slight consideration of the manner in which the development of the great visceral cavities, with their contained organs, succeeds to that of the cerebro-spinal axis, will at once afford some explanation of the reason of union of double monsters by the abdominal or thoracic parietes being so much more frequent than that by the head or spine.

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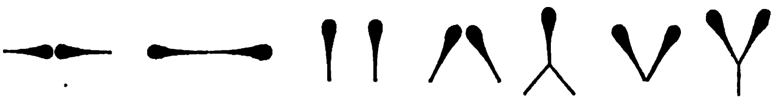
[1] The difficulty of explaining the remarkable symmetry in the union of similar parts belonging to the two individuals composing a double monster, is not in any degree removed by the adoption of such theoretical views as have been advanced, either by Geoffroy St Hilaire and Serres, who conceive a peculiar affinity to exist between these parts, tending to bring them into combination; or by MM. Delpech and Coste, who conceive the whole matter to be made very simple, by imagining certain electro-magnetic currents to be established in the body of each embryo, and to cause an attraction between their corresponding parts. See a notice of an unpublished memoir upon this subject, by the authors last referred to, in the *Gazette Médicale* for 1832, p. 11.

[2] I shall afterwards have occasion to state the evidence of the existence of such supposed cases.

In the paper before referred to, Von Baer has made the conjecture that double monsters which are united either by the vertex of the head, or by the sacrum, may have had their origin in a single primitive groove, by the development of the cephalic parts in the one case, and of the caudal in the other, in the middle of this primitive groove, as in the 1st and 2d figures of the wood-cut;[1] but even supposing this to have been their original position, there seems to be no sufficient reason for regarding the primitive groove as single in these cases; and it appears more consistent with the observations I have detailed, as well as with Von Baer's own views, to regard the germs of such monsters as double from the first, and as differing from others merely in the close approximation of the cephalic or caudal extremities of the two primitive grooves. The early condition of other forms of double monsters might be represented in a similar manner. Thus, for the completely double monster with the smallest possible amount of visceral union, the two primitive traces may be supposed to have been at such a distance from one another as to admit of all the changes of development in each being completed till the formation of an umbilical cord takes place, which in the human embryo may be about the sixth week;[2] or we may represent it by the 3d figure in the wood-cut. For those monsters which are single above and double below, we may suppose the variations between the mere juxtaposition of the primitive traces at one extremity, (see the 4th figure), as in some of the early examples described in this paper, and the actual union of the primitive grooves at one place, (as is represented in the 5th figure). For those monsters which are double above and single below, the position of these lines need only be reversed, (as in figures 6th and 7th).



In one of the specimens I have described, that, viz. which is represented in fig. 4 of the plate, the relative position of the two embryoes does not agree exactly with any of the above supposed positions of the two primitive grooves, inasmuch as, while the caudal ends of the two embryoes separate from one another, and lie flat upon the surface of the germinal membrane, the two cephalic extremities overlap each other without intimate union; and the embryoes are thus brought into so close a proximity in the cervical and thoracic regions, that a single heart only has been formed between them. Now, as there can be no doubt that the primitive grooves of both of these embryoes originally lay in the same plane of the germinal membrane, we may conjecture that their crossing has been the effect of some contraction or other change subsequent to the enclosure of the cerebro-spinal canal. Although, as has been already stated, the production of a double germ cannot with probability be attributed to secondary changes of development, yet it may be shown that such changes ought not to be altogether excluded from a modifying influence upon the structure of double monsters.

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[1] The swelling at one extremity of these lines is intended to indicate the place of the cephalic part of the embryoes.

[2] M. Coste, (*Comptes Rendus des Séances de l'Acad. des Scien.*, 1836, p. 4), considers the fourth week as the period at which the Siamese twins must have become united; he supposes, however, no visceral union between them,—the correctness of which opinion may be doubted.

From a consideration of the relation subsisting between the rudiments of the cerebro-spinal axis, and those of the visceral systems, at the time of their first formation, it is not difficult to understand some part of the reason why duplicity of the first is of much more frequent occurrence, and usually to a greater amount, than that of the second. This fact is at variance with the general law applicable to malformations by defect, viz. that the deviations from the normal structure affect most frequently those organs of the body which are latest of arriving at perfection. It is chiefly true, however, of those malformations which are of the nature of arrests of development. In double monsters, on the other hand, a double germ is the primary source of the abnormal structure; that germ exists in the double state from the first; in each of its parts the rudiments are formed of a cerebro-spinal axis, more or less complete; but from the greater space required for the first deposit of the rudiments of the visceral plates forming the parietes of the visceral cavities and their contained organs, it is obvious that a duplicity of the germ does not necessarily involve a double formation of the face, thorax, abdomen, or pelvis.

I would not by any means have it to be understood that I refer the less frequent duplicity of the visceral parts of the embryo to so mechanical a cause as the want of space alone; but I would only wish to point out the remarkable relation which appears to subsist between the position of the several rudiments of the principal organs, and the frequency with which they are observed to be affected with double malformation.

Another subject of interest connected with the history of double monsters, to which it is proper for me to advert in the present paper, is the relation between the symmetrical arrangement of the organs in the two united individuals, and the position of the embryoes in the ovum at an early period. It is a remarkable fact that those internal organs of the body, such as the heart, aorta, liver, stomach, spleen, pancreas, colon, &c. which are placed non-symmetrically in the body, are generally reversed in the body of one of the individuals composing a double monster, so that the two sets of organs in the opposite individuals are symmetrically placed as regards one another. This fact is well brought out in relation to some of the organs in the description of Ritta Christina, by M. Serres; and in the greater number of bicephalic monsters that have been minutely examined, the same inversion of the organs in one of the individuals has been observed. It is in the *right* (dexter) individual of those joined laterally that the inversion exists, and in the *left* (sinister) individual, therefore, the organs are in their natural position.

The occurrence of inversion of the position of the non-symmetrical organs of the human body, is now known to be not a very unfrequent malformation, and we owe to Von Baer the following very interesting theoretical explanation of the cause of its occurrence.[1]

The embryo of the bird during the first thirty-six hours of its formation, lies with its abdominal surface downwards, and its dorsum upwards, and its parts are nearly in a symmetrical position; but in the course of the third day of incubation in the egg of the common fowl, a change of position occurs, by which, first the head, afterwards the thoracic part of the body, and still later the abdominal and caudal portions, come to be laid with the left side of the embryo towards the subjacent surface of the membranes of the yolk; so that in opening a fowl's egg, the small end being directed away from the observer, the cephalic extremity of the embryo will generally be found directed transversely across the yolk, laid in part on its left side, and with its head towards the left hand of the observer. Von Baer had remarked, in very rare instances in the bird's egg, more frequently in the ovum of the pig, the embryo lying with its right side applied to the yolk; and he has very ingeniously supposed that inversion, partial or general, in the position of the non-symmetrical organs, may be connected with this malposition of the embryo at an early period.[2]

The fact already stated respecting the inversion of the non-symmetrical organs in one of the individuals forming a double monster, is strongly in confirmation of Von Baer's ingenious view, for if we look at fig. 4 of the plate, and compare it with fig. 6, which represents the natural position of a single embryo, we shall see that one of the embryoes in the double goose lies with its left side applied to the germinal membrane of the yolk, while the other is in the reverse position, or touching the yolk by its right side.

Supposing the development of this ovum to have proceeded so far as to form a double monster, of which the two individuals were laterally united, the side next the spectator would necessarily have formed the back of the common body, and the embryo which is situated towards the small end of the egg, or uppermost in the figure, would have been what I have designated the left of the pair. It is that which lies with its left side next the yolk, and it is the one in which the natural position of the non-symmetrical organs would have obtained.

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[1] See Von Baer, Entwickelungsgeschichte der Thiere, 1828, p. 51.

[2] Out of many hundred egs which I have opened after a few days' incubation, I have only twice made a similar observation. They were at too early a period to allow of my determining whether inversion of the organs in the fœtus had occurred or not. Von Baer states that the position of the heart was inverted in one of the instances he observed.

It may be interesting likewise, in connection with our present subject, to consider shortly the nature of the union existing between the two embryoes composing a double monster. That union may be either visceral or cerebro-spinal. The latter mode of union, when simple, is of comparatively rare occurrence, for in by far the greater number of double monsters, it is by more or less of the visceral parietes, that is, by the thorax, abdomen, pelvis, neck, or face, as well as in part also by their contained viscera, that the two individuals are conjoined.

The best known instances of cerebro-spinal union are those in which a part of the cerebro-spinal axis, (it may be either the upper or the lower,) is common to the embryoes, and the remainder double. In these cases, however, there is also invariably visceral union to a considerable extent.

A much rarer form of cerebro-spinal union occurs in those examples in which there is no visceral fusion, or the very smallest degree of it, there being two complete or nearly complete embryoes, each furnished in some instances with an umbilical cord, and the embryoes are conjoined either by the vertices of their heads, or by the opposite extremities of the vertebral column. We have the best examples of the union by the vertex of the head in the cases of Double Malformation brought under the denominations of Metopage and Cephalo-page, by Isid. Geoffroy St Hilaire;[1] and of the second, or union by the sacrum and pelvis, in the case of Helen and Judith previously referred to.

In these instances, there can scarcely be said to be community of any part of the cerebro-spinal nervous system, but only a coalition of the parietes of the inclosing cavities, viz. the skull and sacral canal, and the union established in this way between the two cerebro-spinal systems, must be regarded as comparatively slight.

It does not appear that when the bodies are otherwise complete and separate, there are any well authenticated instances on record of the complete coalition of the spines, or even of their union to any great extent.

The only case on record, with which I am acquainted, of human double monster in which the union of the two bodies was along a large portion of the spinal column, is one related by M. de la Condamine, in the *Memoirs of the Academy of Paris* for 1732, (see p. 425), but as no dissection of the specimen is described, we may be permitted to doubt whether the internal structure was such as M. de la C. supposed it to be from his cursory inspection, or whether more particularly the spine was really single. M. de la Condamine states that in passing through Lyons in 1731, he saw a monstrous human fœtus which had been born at three months before the full period of gestation. He describes it as having two bodies, two heads, and eight extremities, the bodies united in the whole length from the occiput to the coccyx by the spine, the abdominal surfaces of both fœtuses turned outwards, or away from each other, and the superior and inferior extremities of both perfect. The fœtuses are described also as having been of different sexes, a circumstance at variance with what is usual in double monsters, in all of which the sex appears to be the same in the two individuals.

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[1] Hist. des. Anom. de l'Organization; tom. iii. p. 60;—and Villeneuve, Déscrip. d'une Monstrosité, &c. Paris, 1831.

In the plate given of this monstrous production, both faces are represented as being directed laterally, or outwards, and consequently not as in the Janiceps twisted round ninety degrees, or as in other allied double monsters, which are united by the thoracic parietes directed towards one another. Von Baer is not inclined to admit the truth of this observation, regarding it as altogether inexplicable, from considerations connected with the history of development. The only cases which Von Baer is inclined to regard as an approach to a united spine in double monsters occurred in the hare. One, a double embryo of the hare, with the Janus-like head, presenting, however, only the commencement of spinal union, is described in the *Mém. de l'Acad. de Paris*, 1745. In the other the union of the spine appears to have been to a greater extent, but the description given of it in the *Miscell. Nat. Cur.* Dec. 1, A. 2, p. 301, is very imperfect.

All cerebro-spinal unions then of complete double monsters, may be reduced to those in which only the extremities of the cerebro-spinal axes come together.

In cases of lateral union of two embryoes by the visceral parietes, there is generally, as has been before remarked, more or less of the fusion of corresponding parts of the two embryoes between them; and I have previously attempted to show that that fusion is attributable to the simultaneous and compound development of the united parts. But there are instances of an intimate union of this kind occurring on both sides of the body in those double monsters in which the embryoes are opposed to each other more or less directly, face to face. I refer to the very remarkable symmetrical union of the parietes of the body or head, which is presented in the various forms of the Janus-like double monsters.

In the more complex forms of this malformation, nearly all the parts of two individuals exist, but they are combined in such a manner that parietes of a common body, it may be of the head, or neck, thorax, abdomen, or pelvis, singly or together, are formed. These parietes occupy thus a position which is lateral with reference to the spinal columns, and are composed each one of parts, of which one half is derived from one fœtus, and half from the other. This is peculiarly striking in the case of the true Janiceps or united heads, for here it is obvious that each lateral face owes its formation to the combination of an equal number of similar and symmetrical parts from each fœtus.

The greater number of double monsters of this kind present an unequal degree of perfection in the common parietes of the opposite sides, as for example, in the case of two faces so formed, we frequently find one complete, and the other with only some of the features. In the latter there may be only a pair of auricles, situated close to one another, or even united. These imperfect specimens of the double monstrosity in question form a transition to the cases of lateral union, and we may conjecture that the less developed intervening paries was originally the one situated between the primitive grooves of the embryoes, as they lay in the germinal membrane; while the more perfect face, or other common paries is that formed from the remote or external visceral plates. It cannot be denied that it is extremely difficult to imagine how, in the considerable separation of the two embryoes from one another, which must occur in such cases, these external visceral plates are brought together. Considered with a reference to their original position in the germinal membrane, the two faces or other parietes of the Janus-like double monster may be distinguished as the upper and under; the upper being the imperfect one, when the duplicity is incomplete, the other one being that formed from the remote visceral plates of the two embryoes, and which, though at first distinct from one another, afterwards become united more nearly in the natural manner than the intermediate or upper ones.

The last topic to which I have to advert, in connection with the subject now under consideration, refers to the relation subsisting between the germ from which a double monster takes its origin, and the ovum in which it is placed.

The well known occasional production of double-yolked eggs by the common fowl, naturally led at one time to the opinion that the formation of double monsters might be attributed to the development and subsequent union of the embryo in each yolk,—an opinion which has been adopted by some on very insufficient grounds, as it does not appear to be warranted by any direct observations made upon the result of the incubation of double-yolked eggs, and is at variance with much of what is known of the structure and mode of union of the two embryoes composing a double monster.

Harvey appears to have been aware of the distinction necessary to be made between the product of a double-yolked egg and that of a single yolk which may contain a double germ, from which last alone, he seems to think, (though upon this subject his expressions are not sufficiently clear,)[1] that a true double monster can be formed.

C. F. Wolff, in the first of the memoirs already referred to, and contained in the xiv. vol. of the *Nov. Comment. Acad. Petrop.*, has more distinctly affirmed that a double-yolked egg is equivalent to a double ovum, that the produce of its incubation would be twins, and that a double monster can only proceed from a single yolk containing a double germ.

Examples of double embryoes of birds sometimes occur at the full period of incubation, in which both are complete, and there is no union excepting at the umbilicus. It is barely possible that each of these embryoes may have been developed from a separate yolk, and that in the course of incubation, the two yolks have come to coalesce, in consequence of external pressure or other causes. Towards the conclusion of the period of incubation, when the yolk usually enters the abdomen of the fœtus, we may suppose, in the case before us, a partial entrance of the common yolk into the abdomen of each embryo, and thus, upon the subsequent contraction of the umbilical aperture, the union of the two embryoes might be effected. Professor Simpson has kindly allowed me to examine a specimen of this kind contained in his museum. It consists of two embryoes of the duck, arrived at nearly the full size, and united, not directly by the integuments of the abdomen round the wide umbilical aperture, but rather by what appears to be a large intervening common yolk which has as yet been only partially included in the abdominal cavities. The state of the preparation, which has been long preserved in spirits, prevents me from determining satisfactorily whether the yolk is really single or only apparently so. But we learn from the accurately detailed observation of C. F. Wolff, previously referred to, that two completely separate fœtuses may be formed in the bird's egg upon a single yolk, and within a single germinal and vascular area. The egg in this instance had been incubated six days, and both the embryoes were at once so complete and so distinct, that there is no reason to believe they would have been united, till the period when the entrance of the yolk into the abdomen of both and the contraction of the umbilical apertures had brought them together.

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[1] See the 24th Exercitation concerning Generation, "on Twin Eggs."

Again, I may remark, I have subjected at different periods nearly a dozen double-yolked eggs to incubation, and have never succeeded in obtaining a double monster, nor even two embryoes at the full period from any of them. In several of those which were opened before the termination of the period of incubation, I found an embryo formed on both yolks, but in the majority of instances either both or one of these embryoes were dead and ill developed, or had been blighted before the time at which they were examined. In several other instances I found that one yolk only had been productive. As we know that a number of yolks are fecundated by one sexual union in the common fowl, there seems to be no good reason for doubting that both yolks were impregnated; and it appears more probable that the cause of the imperfect development, observed in one or both of the embryoes in the double-yolked egg, depended upon mechanical injury to the germs, caused by the unusually great pressure to which, from their large size, these eggs must have been subjected in their passage through the lower part of the oviduct, before they arrived in that part which is termed the uterus, where they receive protection from the addition of the resisting shell.

Two cicatriculæ are sometimes observed upon one yolk, but I think it may be doubted whether this appearance, which I have myself several times seen, is not deceptive. I have, at least, never observed any appearance of fœtal development to occur in both of them, and I am not aware of any other experimenter having noticed such a change in both of them as would warrant the conclusion that each contained the germ of an embryo. In every one of the observations referred to in the first part of this paper, exhibiting the early condition of double monsters, the yolk and germinal area were single. Now, if we reckon along with those previously particularised, a second incidentally mentioned by Wolff, there are six observations in all of which only one germinal area existed, and I am not aware of a single fact which can be brought as direct evidence of the formation of two embryoes remote from one another, that is in distinct germinal areas within the same yolk.

We are scarcely entitled, however, to apply, without some modification, the reflections now suggested by the observation of double monsters in birds, to the class of mammalia, or to the human species, for there are marked differences between them in some circumstances, having an important bearing upon the nature of the union, which may afterwards be established by means of the umbilicus, between the two embryoes. Thus, in birds there cannot be said to be any true umbilical cord, as in mammalia,—a defect which, in the former class of animals, appears to be related to the entrance of the sac of the yolk into the abdomen, towards the conclusion of the period of incubation.

We can readily conceive then, how it is possible that in birds a union of two embryoes, each of which is complete in itself, and which have previously remained distinct from one another, should in the end take place; and that this might occur, whether, as in the example described by Wolff, two totally distinct embryoes were placed upon a commen yolk, or whether, as I have before allowed may possibly be the case, each embryo had been formed on a yolk originally distinct, but becoming united in the course of incubation.

In mammalia, on the other hand, from the existence of an umbilical cord, it is obvious that the umbilical union of two embryoes which are otherwise separate and complete, (such a union in fact as may be supposed to have existed in a double malformation like the Siamese youths,) must have taken place at a much earlier period, probably about the fourth or fifth week, or at the period when the umbilical attachment of the embryoes to the yolk sac or umbilical vesicle begins to elongate and to contract in its diameter.

Again, with regard to the question, how far it is possible that the embryoes of two separate ova in a mammiferous animal, or in the human species, should combine to form a double monster, it may be stated that the existence of the umbilicus and structure of the membranes related to it, must render the liability to such a combination still less in them than in birds; and it seems more probable that the arrival in the uterus of two impregnated ova, in close proximity with one another, will be attended with the production, not of a double monster, but of twins.

A close approximation of two ova similar to that occurring in the double yolk of birds, is occasionally met with in the uterus of mammalia; and it would appear that this may in some instances be determined by the formation of two ovula within the same Graafian vesicle. Von Baer thought he had observed double ovula in the Graafian vesicles both of the dog and sow.[1] Bernardt was inclined to doubt the accuracy of this observation; but it has recently been satisfactorily confirmed by Bidder of Dorpat,[2] who has found two ovula in the Graafian vesicle of a calf's ovary, and being fully aware of the doubt that might be attached to such observations, took every means of avoiding error. In this instance Bidder states that the two ovula were imbedded in the same tunica granulosa of the Graafian vesicle, and lay so near to one another, that the distance between them was not more than one half of the diameter of one of the ova.

It is possible that this fact may throw some light upon the production of twins; but, as Bidder has remarked, it does not appear necessary for their formation to suppose the co-existence of two ovula within one Graafian vesicle, seeing that two of these vesicles are not unfrequently found burst at the period of impregnation. In connection with this subject, it might be interesting to know whether two corpora lutea, or only one, are usually formed along with twin conceptions.

It does not appear possible, in the present state of our knowledge, to carry the investigation of the origin of double monsters farther back in the process of development than has now been attempted to be done, in referring them to a double primitive groove. In a speculative point of view, however, it might be of the highest interest to inquire into the nature and source of the germ from which such primitive grooves may be supposed to be formed. Have we in fact any reason to believe, that two germinal spots may exist in an ovum, or that a double germinal vesicle, or a double nucleus in one germinal vesicle, may be the source of duplicity?

Certain appearances described by Bischoff, as having occasionally been observed by him in the ovarian ovula of the dog, rabbit, sow, and human female, led him to believe that an abnormal division of the substance of the yolk in one ovum might sometimes occur in these animals.[3]

No one, in so far as I am aware, has detected the existence of two germinal vesicles within one yolk previous to impregnation. Such an observation would be of the highest interest. I once thought that I had met with an example of this peculiarity in the ovarian ovulum of the cat; but I fear that there was some inaccuracy in the observation, and that the germinal vesicles from two adjacent ovula, of which several were at the time on the field of the microscope, had accidentally come into juxtaposition.

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[1] Epist. de Ovi Mam. et Hom. Gen. 1827. [2] Müller's Archiv. for 1842, p. 86.

[3] These observations were communicated to the scientific meeting at Mayence in 1842, and are noticed in his work upon the Development of the Rabbit, 1843.

As bearing upon this part of the subject, it would be important to know more satisfactorily, whether the tendency to the production of double monsters is hereditary, and whether, if it is so, the descent may be from the side of the male parent as well as from that of the female. For should there be good evidence of the descent of the tendency to the production of double monsters from the father's side, it is obvious that we need not look for that double condition of the germinal vesicle or its nucleus in the ovarian ovulum, which, if the descent be entirely from the female parent, might with much probability be regarded as their primitive source. The evidence upon this subject, however, it is to be regretted, is most imperfect. Meckel regards it as probable that the tendency to the production of double monsters is greater in those families in which twins or multiple births are common, than in others; in corroboration of which several recorded cases might be stated, and among others, the remarkable instance described by Walther of the coexistence of a double monster with a twin single child. Now, if the fact be as is stated, the tendency to the production of multiple births being undoubtedly of hereditary descent, the tendency to the production of double monsters must likewise be admitted to be so. I have employed here the term *tendency* as applicable to the production of double monsters, because in them as well as in cases of simple malformation, the defect is not invariably entailed on the offspring of the parents affected with it, but a certain proportion of the members of a family, or whole generations, are passed over without its occurrence, and it reappears in a collateral or in a succeeding generation.

It is sufficiently clear that double monsters are not in many instances directly hereditary, from the circumstances, that few arrive at the age of puberty, and that very few indeed of those that have reached it are capable of reproduction. Of monsters which are double in the generative region, the sex is usually (if not invariably) the same in the two individuals; but there are generally imperfections, either structural or functional, of these organs. Isidore Geoffroy St Hilaire quotes, however, the interesting case related by Buxtorff[1] of a man affected with abdominal parasitic monstrosity, who was the father of three sons and a daughter, all of whom were naturally formed, as well as several cases occurring among animals.

It might have been interesting now to have pursued this subject with reference to the structure and relations of the membranes of the ovum in cases of double monstrosity, and to have compared their condition with that existing in twin or multiple conceptions;

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[1] Observat. Posthum., in Act. Helvet. tom. vii. p. 100.

but the materials within my reach, bearing upon this subject, are too scanty to admit of general remarks at present.

C. F. Wolff states the remarkable fact, that both the embryoes in the double monster of the fowl, which he observed at the sixth day of incubation, were quite destitute of any amniotic covering.

In the specimen of double embryo of the goose, which I have described, and which was of a considerably earlier period than that of Wolff, I have shown that the amniotic folds were begun to be formed, there being a common one for the approximated cephalic extremities, and a distinct one for each of the caudal parts of the embryoes; and it may be conjectured that these folds would ultimately have united in the usual way behind the embryoes to form an amniotic envelope, which, though at first divided into two sacs at the caudal extremities of the embryoes, might yet form only one cavity at their united heads, and have only one place of reflection at the single umbilicus.

Whether in Wolff's case amniotic folds or reflections existed at first, and were subsequently prevented from coalescing posteriorly, in consequence of the distance of the two embryoes from one another, or from other causes, we may be at a loss now to conjecture.

In twin, or other multiple conceptions, each fœtus has usually a distinct umbilical cord, and is contained in a separate amniotic cavity; but the two or more umbilical cords are frequently inserted into a common placenta, and there is, in addition to the union of the masses of the placenta respectively belonging to the different fœtuses, not unfrequently also communication between some of the large blood-vessels of the different cords near the place of their insertion.

The existence of a single amniotic cavity for two or more fœtuses of a multiple conception appears doubtful; excepting, perhaps, as the effect of rupture of one of the sacs, or of morbid coalition of the embryoes at an early stage of development. At the same time, it deserves to be mentioned, that in a case of quintuple conception, in which birth took place at the seventh month, there were observed only two placentæ and two amniotic sacs; three of the children which were born alive, being attached to the one placenta, and the other two, which, though equally developed with the first, were born dead, being attached to the other placenta.[1]

It has been stated by some, that the chorion, in some cases of double conception, does not inclose both the amniotic pouches, nor enter into the formation of the septum between them; while in other cases, a double chorion is distinctly observed. More numerous and accurate observations on the point would be required before any great value can be attached to the alleged fact.[2]

In the course of the preceding observations, I have in a great measure avoided entering upon the consideration of the theory of the origin of double monsters by inclusion, on account of their presenting some circumstances totally different from the other kinds of double malformation, whether of the equal or unequal classes. There is reason to believe, as has been before stated, that some of those cases which have been regarded as examples of fœtus in fœtu, are more nearly allied to the unequal, or parasitical form of double malformation; but others do not admit of being referred to that class, and the origin of such appears to me, in the present state of our knowledge, inexplicable upon any of the principles already adverted to. The anatomy and relation of these monstrous productions is, however, I fear, as yet too imperfectly known to admit of our forming a probable conjecture regarding their origin.

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[1] See Biblioth. Med., tom. xix. p. 374, for the account of this case by M. Petretein.

[2] See an interesting memoir upon the subject of multiple pregnancy, by Dugés in *Revue Médicale*, &c. for 1826, tom. i. p. 349.

Bischoff, from an examination of what has been written on this subject, is induced to regard the hypothesis of the original inclusion of one ovum in another, as the most probable view of the origin of monsters by inclusion. I confess, however, it does not appear to me to be altogether satisfactory, nor in some instances, to be required.[1] We may expect that the observation of some of these cases, at an early period of their formation, may throw upon the nature and origin of this kind of double malformation some of the same light, which appears to have dawned upon the more common forms, in the observations referred to in the earlier part of this paper.

The reader may have observed, that I have also in the previous remarks omitted altogether the consideration of those cases of malformation in which two fœtuses are united by dissimilar parts. Interesting as examples of this union are, in many points of view, their consideration belongs rather to the subject of the morbid union of twins, (of which nature they appear to be) than to the history of true double monsters.[2]

[For the concluding remarks of Dr Thomson's paper, see the last part of the number.]

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[1] The work of Himly, Geschichte der Fœtus in Fœtu, Hannover, 1831, and the memoir by Ollivier, sur la Monstruosité par Inclusion, contained in the *Archiv. Génér. de Méd.*, tom. xv.

[2] I would also refer the reader for information on the subject of this paper to the following detached memoirs, viz., Tiedemann's various memoirs in the 3d and 4th volumes of his *Zeitschrift fur Physiologie*, &c. Mayer's Essay in the 10th volume of Graefe and Walther's *Journal*, and in the 30th volume of the *Journal Complément*, p. 50. Dubreuil's memoir upon Ischiadelphic Double Monstrosity, in *Mém. du Muséum d'Hist. Nat.*, tom. xv., p. 245, and Geoff. St Hilaire's paper on the same subject in *Jour. Complém.*, tom. xxxvii., p. 133. The volume of the *Mém. du Muséum*, just referred to, contains also some interesting contributions to the history of Heteradelphic Double Monstrosity, both by Geoff. St Hilaire and by Serres, p. 395 and p. 409.

PART SECOND.

REVIEWS.

Practical Manual of the Diseases of the Heart and Great Vessels. By F. A. Aran, *Interne of the Hôtel Dieu, &c., Paris. Translated by* W. A. Harris, M.D. 12mo, pp. 296. Philadelphia, 1843.

As a work intended to facilitate and extend the study of the diseases of which it treats, this is certainly worthy of great commendation, if not entitled to the higher meed of praise generally reserved for essays professedly original. To the physician who is much engaged in the laborious duties of practice, it is especially addressed: he will find it a most useful compendium, in which the observations of previous authors have been sifted, and valued; affirmed or rejected;—and, what is of more importance, compressed into convenient dimensions, both as regards the memory and the pocket. To the student, these are advantages not to be overlooked; as with it, in his attendance in hospitals, and dreary wanderings among the wretched abodes of poverty and sickness, which, to the disgrace of our government, have continued for ages, and still continue to supply the fever hospitals or pest houses *with the miserable victims of erroneous legislation*,—he may never, if he chooses, be without a useful guide, in the study of an important group of diseases which ought to claim a large share of his attention. For it is not now deemed advisable to leave almost unnoticed, or to hurry over, as it was wont to be not many years since, the consideration of diseases of the organs of circulation, as if they still continued to present a chaotic mass of conflicting indications, baffling the ingenuity of man to disentangle their perplexities, and defying him to remove one pang more from the unfortunate sufferers, than has hitherto been accomplished by the hap-hazard therapeutics of former times. Percussion and auscultation have dispelled the darkness, and order has taken the place of confusion.

M. Aran's work is divided into *two* parts;—the *first* is on the anatomy and physiology; and the *second*, on the pathology and treatment of the organs of circulation. Both the author and his translator appear to us, to have executed their respective tasks with great ability.

The following quotation contains a concise view of a subject, which has very important bearings upon diagnosis.

TOPOGRAPHICAL ANATOMY OF THE HEART AND GREAT VESSELS.

" There is at present no truth better established in medicine, than that of the indispensable necessity of studying perfectly all the phenomena, and all the conditions appertaining to the healthy state of the organs, in order to understand the different modifications which they and their functions undergo during their morbid states.

" It is only by comparing the pathological transformations with what experience has taught us to be incident to the normal state, that we can hazard an assertion respecting the nature of any lesion or of any modification of function.

" The perfect knowledge of the anatomy and physiology of the heart in its healthy state, is therefore indispensable to the study of the diseases and pathological alterations of this organ.

" It is not our intention to introduce here the details of descriptive anatomy, which are readily met with in books on that subject; neither is it necessary to say anything concerning the anatomy of its texture, on which point the able works of Steno, Borelli, Wolf, Duncan, and Gerdy, leave nothing to be desired.

" But there are some points, of which authors of topographical anatomy have, in general, treated very lightly, such as the exact position of the heart in its relation to the different parts surrounding it, its weight and size, and the relative volume of its different portions to each other.

" We are far from attaching to the estimate of the volume and the weight of the heart all the importance which some persons give to them; we are aware, that variable as they are, according to the subjects, they also vary in the same persons at different epochs of their life, and under very diversified influences; but we also think, that all sciences gain in point of precision and certainty, by establishing moderate limits, as standards, with which we can compare the alterations that are observed: we think, in conclusion, that the appreciation of the quantity must be left as little as possible to conjecture, because few persons judge rightly in regard to this point. We would have everything known relative to the weight and volume of the heart; but we refer what is further to be said of this point, to the article Hypertrophy, where other data will be found more in place.

" It is well known, that the heart, being the central organ of the circulation, occupies in the chest the inferior portion of the anterior mediastinum; that it is enveloped by a fibro-serous sac, called the pericardium; that it rests upon the diaphragm; that it looks obliquely from above downwards, and from before backwards; and that, while its body and apex remain free, its base is fixed, whence are detached the large vessels.

" It must be evident, from the preceding account, that the heart, resting upon the diaphragm, and being free at its apex, describes at each movement of the diaphragm an arc of a circle, of which the axis of the heart is the radius, and the base of that organ the centre. It would be impossible to appreciate the changes which take place in the several relations of this organ, if there was not a point of departure which remained invariable in its position; this fixed point is not exactly that which follows the movements of the diaphragm, but rather the point at which the large arteries are detached from the heart. Dr Hope has shown, and M. Gendrin has confirmed it by his experiments, that this point, where the motion of the heart and the large vessels arising from it terminates, this axis of the movements corresponds to the half of [illegible] extent, and to the centre of the pulmonary artery; that is to say, to the middle of the space embraced between the origin and the division of this artery, or rather to the middle of the space comprised between the synchondro-sternal articulations of the second and third left ribs.

" At their origin, the two large arterial trunks which arise from the heart are placed above each other; the aorta, which is posterior, extends, by about one-third of its volume, beyond the border of the pulmonary artery, on the right side.

"If we draw from one side to the other a horizontal line, along the inferior border of the two third ribs, this line passes over the valves of the pulmonary artery, which it leaves, situated a little to the left of the median line; the valves of the aorta are situated behind the preceding, but about half an inch lower, so that the artificial line just described, on one side, passes above the base of the valves of the pulmonary artery, whilst, on the other, it corresponds to the free extremity of the valves of the aorta. It is over the tract of this line, and consequently on a level with the inferior border of the third rib, that the murmurs produced by the diseases of those valves are found at their maximum. From this point the aorta and pulmonary artery arise; the pulmonary artery, at first, in contact with the sternum, afterwards inclines to the left, until it reaches the interval between the second and third ribs, where the fixed point of the movements, before alluded to, will be found. If, instead of forcing a needle through the second intercostal space, we force one immediately under the inferior edge of the synchondro-sternal articulation of the second rib, the needle traverses the pulmonary artery on a level with its bifurcation, and meets behind it the remains of the *ductus arteriosus.*

"The aorta, inclining slightly to the right, goes afterwards from the right side to the left, by passing before the right branch of the pulmonary artery. It is then found in its relation with the sternum, at the moment when it disengages itself from beneath the pulmonary artery, that is, on a level with the superior border of the synchondro-sternal articulation of the second right rib.

"It is also under this last articulation that the origin of the brachio-cephalic trunk is found. As regards the origins of the left carotid and the left subclavian arteries, they are found beneath the sternum, behind the synchondro-sternal articulation of the second left rib, and behind the left branch of the pulmonary artery.

"The auriculo-ventricular orifices are situated in the space included between the third and fourth left ribs, near the sternum; that of the right ventricle is a little lower than that of the left ventricle.

"The heart rests, by its flattened face, on the diaphragm; its point is inclined downwards, forwards, and to the left of the chest; its base looks upwards, backwards, and to the right; the left ventricle is posterior and superior; the right ventricle is anterior and inferior.

"The apex of the heart generally pulsates between the cartilages of the fifth and the sixth ribs, and sometimes between the cartilages of the fourth and fifth, at four or five centimetres, or little more than an inch, from the left extremity of the sternum; in women and children, it beats oftener between the fourth and fifth left ribs.

"The right auricle, which is situated before and to the right of the base of the heart, is partly concealed by the anterior border of the right lung; but its appendix and a part of its body correspond immediately to the sternum, or, more strictly speaking, to the synchondro-sternal articulation of the third rib. The left auricle, which is situated behind and to the left of the base of the heart, is covered, as well as its appendix, by the anterior border of the left lung, and corresponds to the interval between the third and the fourth ribs.

"The vertical line through the synchondro-sternal articulations divides the heart into two unequal parts, leaving one-third on the right, and two-thirds on the left side. The portion of the heart situated to the right, contains the superior extremity of the right ventricle, and the right auricle; that portion lying on the left side, contains the inferior part of the right ventricle, the left ventricle and auricle.

"The pericardium has a pyriform appearance; enlarged at its middle, and extending, especially to the left, it continues to contract more in proportion as it approaches the point where it is reflected upon the large arteries which take their origin from the base of the heart, that is, on a level with the synchondro-sternal articulation of the second left rib.

"The lungs descend separately, for the extent of two inches, along the edges of the sternum; they cover the base of the heart slightly on the right side, but to a much greater extent on the left; from this place, they separate from each other; the left lung following the course of an oblique line, drawn from the internal end of the cartilage of the second rib to the anterior extremity of the last rib; the right lung following the tract of an oblique line, drawn from the median and superior extremity of the sternum to the anterior extremity of the first false rib; and by this separation, they leave exposed a considerable portion of the right ventricle, and a much smaller portion of the inferior part of the left ventricle." Pp. 9-14.

To the much contested subject, of the causes of the normal sounds of the heart, considerable space is devoted. Many theories are, we think, justly set aside as unworthy of consideration, being at variance with the ascertained motions of the different portions of the organ; and, after due consideration of the remainder, the author comes to the following conclusions.

Author's Views on the Normal Sounds of the Heart

"We do not, then, admit the sound of muscular extension; we admit that the extension of the auriculo-ventricular valves is accompanied by an appreciable noise; but does it necessarily follow that this sound, in connexion with the muscular sound, are the only elements of the first sound? We cannot think so; but there seems to have been no notice taken of a very important cause; we allude to the shock of the column of blood against the sides of the auriculo-ventricular valves; these valves vibrate, not only because they are submitted to a violent extension, but because they are struck by the wave of blood. It is of little importance, however, whether the valves are set in vibration by the extension or the shock of the liquid, since the result is the same. What we admit for the first sound, we admit also for the second, and think that the return stroke of the blood against the floor of the closed semilunar valves, is one of the principal elements of the second sound.

"To resume; our belief is, that the first sound is composed, first, of the sudden extension of the auriculo-ventricular valves; second, of the shock of the column of blood against the sides of the valves; and, third, of the muscular sound; the second sound is owing, first, to the sudden extension of the semilunar valves; and, second, to the rebound of the column of blood against the sides of these same valves.

"As to the sounds which are produced by the impulse of the apex of the heart against the thoracic parietes, or by the friction of the column of blood against the walls of the ventricles, the orifices, and large vessels, we do not deny their existence, but we think that they are entirely concealed by the normal sounds of the heart. Hereafter when we study the pathology of the heart, we shall see that these sounds gain force, are distinct from the normal sounds, equal them, and sometimes efface them entirely, under the influence of pathological conditions of this organ." Pp. 44, 45.

This opinion is closely allied to those of Professor Williams, and of Dr Hope, though differing in some of the details; which, however, may be almost all said to be implied, if not really included, in their expressed opinions; and here we may remark, that the author has given an erroneous view of Dr Williams' opinion on this subject; nor yet does the statement agree with the observations of Dr *David* Williams,[1] which might have been confounded with the other writer from a similarity of names. It is therefore clearly an error, and one which the translator is more blameable for than the author. It ought to have been corrected by a note.

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[1] See Edin. Med. and Surg. Journal, 1829.

We have not space to quote the author's remarks on the "*mode of investigation in the diseases of the heart*," which are clearly and concisely drawn up; and must conclude this notice with the following interesting observations on *arterial sounds*, which contain certain views as to the cause of these sounds, at variance with the opinion of previous writers.

Anomalous Sounds of the Arteries from Inorganic Causes.

"1st, *Arterial Murmurs.*—It is now generally admitted as a fact, that the murmurs and purring tremor of the arteries from inorganic causes are only met with in persons whose blood presents alterations, either in its quantity or quality (deficiency of the valves of the aorta, anæmia, cancerous and scorbutic cachexiæ, &c.), and also in certain pathological states, which are accompanied by a concentration of the blood (paroxysms of intermittent fevers). These being the conditions in which they are found, let us inquire how they are produced.

"In speaking of the murmurs of the heart from inorganic causes, we have already shown, that the alterations in the quality or quantity of the blood increase the friction against its parietes. In the arteries the circumstances are still more favourable. It is thus, that in anæmia and deficiency of the aortic valves, the vessels when empty of blood return to their former state; and independently of their flaccidity, there are folds formed in the internal surface of these vessels; and hence, an increase of friction. Let it be added, that, under the influence of losses of blood, the circulation is constantly accelerated to the amount of fifteen to twenty pulsations per minute; and that there is in the arteries, on a level with all the branches that spring from a main trunk, a prominence, which, projecting into the arterial cavity, breaks the current of blood, and causes sonorous vibrations. In certain cachexies, where the blood is more deficient in quality than in quantity, the molecules of this liquid, being lighter and less viscid, and consequently easier of motion, pass more rapidly over the internal membrane of the arteries. To this cause may be added the flaccid state of the arteries, the rapidity of the contractions of the heart, &c.

"In this manner the intermittent murmurs of the arteries, and their purring or vibratory tremor, which is only an augmentation of the former sound, are explained; but it is not the same as regards the murmurs produced by a double current.

"We have placed the seat of the continuous murmur in the arteries, but the labours of Dr Ward of Birmingham, and of Hope, have caused doubt on this point.

"If it be considered that the continuous murmurs persist during the systole, and almost with the same intensity, that is, at a moment when the column of blood obeys no more than this feeble elasticity of the arterial tissue; that when the pressure is increased with the stethoscope, they give to the ear a sensation of a bellowing or rumbling sound; that they are commonly diffused, and not circumscribed, by the calibre of the artery; that these continuous murmurs are constantly reinforced at each arterial diastole; that they seem to the ear like two currents flowing in different directions; that it suffices, under some circumstances, to press lightly above the stethoscope, in order to cause them to cease, and only to allow the sound of the arterial diastole to be heard, we should join Dr Hope in the inference, not that all the bellows sounds are seated in the veins, as MM. Barth and Roger have imagined this author to say; but rather, that in the continuous murmur there are two things, viz., the venous element, if we may be allowed the use of the expression, which constitutes the foundation of the anomalous sounds, and which itself is continuous like the venous circulation; and the arterial element, which reinforces the continuous sound at each arterial diastole. In a work which we shall soon publish, we will mention some curious facts and experiments, which appear to us to sanction this opinion: at present, we only intend to present the difficulty.

"In summing up, we find that the arterial sounds may be modified by organic and inorganic anomalous sounds. We now present their distinctive characteristics.

"1st, The *arterial murmurs from an inorganic cause* may be double; *those from organic causes* are almost always simple, and seldom take on the continuous character.

"2d, The *inorganic arterial murmurs* are best observed in certain arteries (as the carotid and subclavian); the *organic arterial murmurs* have no fixed position.

"3d, The *arterial murmurs from inorganic causes* always have a soft character; they are never rough like the *organic murmurs.*

"4th, The *inorganic arterial murmurs* are not permanent; they increase during the heart's palpitations, and disappear by rest, and under the influence of animal food; the *organic arterial murmurs* are permanent, like the cause which produces them.

"The *vibratory tremor from an inorganic cause* may be distinguished from that proceeding *from an organic one*, 1st, By the character of the murmur which accompanies it; 2d, By its being of less intensity; 3d, By its diffused character, and its propagation over a large extent of the arterial system; 4th, By its want of permanence." Pp. 93–96.

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Lecture introductory to a course of Clinical Surgery, delivered to the Students of the Glasgow Royal Infirmary, &c. By M. S. BUCHANAN, M.D., *Professor of Anatomy in Anderson's University, and Senior Surgeon to the Royal Infirmary.* 8vo. pp. 25. Glasgow, 1844.

The great aim of the enthusiastic lecturer is to prove, that Glasgow is the best and cheapest medical school in Europe; and that he has done so *to his own satisfaction*, is sufficiently clear from the whole tone of the discourse, but particularly from the concluding paragraphs, one of which we subjoin.

"Our southern friends, I know, begin to tremble lest such information as I have above endeavoured so imperfectly to afford you, may find its way to head quarters, and thus open the eyes of the medical profession to the advantages of the Glasgow school; but this just so much the more imposes the duty on me, to proclaim still more loudly those stubborn facts, for the information of the rising generation."

It may interest some of our readers to know, what are the chief grounds upon which Dr B. claims superiority for Glasgow as a school of medicine.

I. LOCALITY AND POPULATION OF GLASGOW.

"Situated in one of the most extensive commercial, manufacturing, engineering, and mining districts in the world, it presents to the eye of the philanthropist the busiest field of industry and activity any where to be met with. The number and variety of severe and appalling accidents which are of every day occurrence, arising from this state of society, and demanding all the intrepidity and dexterity of the surgeon, render the surgical wards of the Infirmary more like those of a military hospital after a sanguinary engagement than those of a civil establishment. It is not, however, to the city alone that our attention must be directed; the surrounding country, containing a population of nearly 1,000,000 inhabitants, furnishes us with many of our important hospital cases; and though attempts have been made to prove the insalubrity of the wards of our hospital, and the impropriety of conveying patients to it from a distance, either for operation or treatment, yet so unsuccessful have these attempts been, that there is scarcely a case of moment occurring in the whole west of Scotland which is not instantly sent for admission to this noble institution. But it is not so much to the amount as to the *quality* of the above dense population, that we must refer for the explanation of many of those advantages which you enjoy in attending those wards, and though at first sight little difference may be thought to arise from this cause, still, if the surgical wards of the hospitals of Edinburgh or Dublin, Rome or Florence, Berlin or Vienna, or indeed any of the most populous of the merely aristocratic capitals of Europe, are examined with the view of comparing them, as I have done, with those of Glasgow, this element will be found of the last importance. Look to the statistics of these cities,—to the occupations in which their plebeian population are engaged, or the diseases and accidents to which they are liable, and you will not fail to remark that they are of a totally different nature from those of this locality. A very large class of the population of the above capitals consists of household servants with all the subordinates ministering to the wants of their superiors, and also of localities, so much the more will it be found that the Glasgow Royal Infirmary presents at all times perhaps the most important gallery of acute surgical disease of any in the world." Pp. 6-9.

"Our accident wards, which contain 40 beds, are generally well occupied, as formerly proved by the number of fractures and wounds annually under treatment. Our ordinary surgical wards are now limited to contain 60 beds, which are also usually filled with acute and chronic cases."

We are by no means prepared to admit that the active and often bloody character of the surgery, which, from Dr B.'s account, must necessarily obtain in the Glasgow hospital, is the best calculated to steady the student, make him a patient observer of surgical disease, and at last a judicious practitioner. Injuries and capital operations, however important they may be to the student, are not the only sources from which he ought to derive his knowledge of the doctrines and manifestations of scientific surgery. Far be it from us to detract from Glasgow as a school of surgery. We believe that it is a good one:—but still, we have very many reasons for thinking, with all submission to our author, that there are others as good, though we will not presume to say, (with Dr Buchanan's lecture before us,) that there are any better!

II. SHORT RESIDENCE OF THE PATIENTS IN HOSPITAL.—We are some what surprised at the following statement.

"So anxious are the Directors of the Hospital to prevent careless and slovenly practice on the one hand; or, on the other, to allow our hospital to degenerate into an almshouse, that a *Senatûs Consultum* was issued by them some years ago, that two months only should be allowed for the treatment of each patient, except in special cases. To a superficial observer, this regulation may appear harsh and unfeeling, but when we examine the methods sometimes adopted by the inmates to delay their cure, and the system of malingering which prevails, it is right that such an ordonnance should be suspended *in terrorem* before their eyes." Pp. 12—13.

If there is a suitable almshouse in Glasgow to receive the victims of chronic and incurable disease, when the *Senatûs Consultum* drives them from the hospital, we do not object to it, on the score of in-humanity; but be that as it may, it appears to us that this law detracts immensely from the value of any institution as a school for diagnosis, which is the only sure basis of therapeutic knowledge. If cases of phthisis, heart disease, and chronic affections of the liver and other organs, are to be dismissed at the end of two months, because the chances are, that they may linger on for some months longer, we are at a loss to conceive how the business of clinical teaching can be carried on at all. From the dissections of cases which have been long and carefully observed during life, the most instructive lessons of diagnosis are to be derived: in fact, it is as much in the theatre as at the bedside, that the practice of medicine is to be learned. The *Senatus Consultum* will have two very obvious effects upon the statistics of the hospital: it will give a small number of deaths, and cause a great saving of the wine required by chronic cases in their last stages.

III. THE DISPENSARY CLINIQUE.—We have been present at the Glasgow dispensary clinique, and willingly testify that the vast field which it presents to the pupil for observing disease and performing the minor operations of surgery in the presence of his fellow-students and zealous teachers, is admirably calculated to form in the youthful mind correct principles of practice, and give a quickness of applying them, which no other kind of discipline can impart. [This system of instruction is termed *Polyclinique* by the Germans, by whom it is much esteemed.] The interests of our poor, as well as of our pupils, call for a better regulation of dispensaries; and we know of no way by which the interests of both would be more advanced and secured, than by the training of the latter in a well-regulated polyclinique, before they were let loose to prescribe in the lanes and alleys.

The business of the Glasgow Polyclinique is conducted in a suitable theatre, which is noticed in the following passage.

> "I found great inconvenience in the Dispensary for want of accommodation. The crowding was so great, and the obtaining a view of the patient so difficult, that I was under the necessity of memorializing the Directors for the erection of a small theatre. This was immediately granted by those gentlemen, who have at all times your welfare at heart; and now you will find in your little Dispensary Sanctum Sanctorum, as much comfort, and even more instruction than in any other department of the Hospital. The cases are of all kinds; they are examined carefully at the moment, the whole history is detailed, the diagnosis, prognosis, &c., explained, and the treatment left to a senior pupil, under the correction of the ordinary attendants; by this means you are familiarized with disease, and compelled to think for yourselves as to the ratio medendi." P. 14.

IV. THERE BEING NO RIVAL HOSPITAL AS IN DUBLIN AND LONDON.—Difference of opinion will exist as to whether this is an advantage or disadvantage. When a wise and liberal spirit pervades the direction, it may be the *former*,—on the other hand, when the interests, alike of the student and medical school generally, are sacrificed to monopoly in teaching, and restriction of opportunities for the study of disease, then, we cannot but regard the want of a rival hospital as most disadvantageous. We have therefore great pleasure in congratulating our Glasgow friends on Dr B.'s next ground of superiority, viz:—

V. THERE BEING NO MONOPOLY OF CLINICAL TEACHING.—We cordially agree with Dr Buchanan in thinking that the directors of the Glasgow "hospital have most judiciously enacted that every (medical) office-bearer shall in his turn be a clinical lecturer;" and to show how heartily the directors lend their aid to the medical officers in their endeavours to improve medical instruction, we quote the following:—

> "About the year 1827, the Glasgow Medical Journal was commenced; and so alive did all the hospital surgical staff feel to the important advantages to be derived from recording their cases in that well conducted and spirited periodical, that proposals were made to the Infirmary Directors for the establishment of a regular series of clinical lectures to be delivered by all the attending medical and surgical officers. These proposals were instantly complied with, and ever since, there has been kept up in this hospital the most complete system of clinical instruction, which is to be found in this or any other country." P. 16.

While we heartily commend this important step, we must not omit to claim a due consideration for other similar institutions. For example, let us take the Edinburgh hospital, which was one of the earliest, if not the first, in which clinical instruction, worthy of the name, was given in this kingdom, and which, *from its very foundation, upheld clinical instruction as one of the most important advantages to be derived from its institution*, as appears from the following quotation from its original history. "A School of Medicine having been for many years established in Edinburgh, and having arisen before the period of the erection of this hospital, to a flourishing state, the managers of the Infirmary resolved to *spare no pains in cherishing it, as far as the hospital could serve that purpose;* and foreseeing that its interests would soon be interwoven with that of the University, they *resolved to adopt every measure that could tend to facilitate medical education, and to render it complete.*"[1] Thus, while the charitable objects of the institution were not overlooked, the advantages which might accrue to medicine were not undervalued by the original founders of that institution. Whether or not any improvement on the present system of clinical instruction in that institution could be made, so as to carry out the liberal views of the founders, we will leave for future consideration.

As to the arrangements for clinical lecturing, Dr B. has the following remarks:—

> "No monopoly is allowed as regards the wards of our hospital. The charter of the institution being of the most liberal kind, the medical and surgical practice has always been thrown open to the widest competition; by this means insuring the most able and experienced office-bearers. Indeed, so jealous have the directors all along been of the least approach to monopoly, that a bye-law was made many years ago, that all the physicians and surgeons, however

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[1] History of the Royal Infirmary of Edinburgh. Quarto Pamphlet without date.

talented, must vacate their respective situations after an incumbency of four years, and can only be re-elected after the lapse of two years.

"However much opinions may differ as to these regulations, it must on all hands be allowed that much good has resulted from the above practice in this hospital; for while, on the one hand, it has allowed a plentiful infusion of young blood, on the other, it has retained a goodly proportion of the matured and experienced in the profession." P. 21.

With these remarks, except perhaps as to the period of incumbency, which we think might be extended to five or six years, we entirely concur; for any hospital which adopts a contrary method is liable to fall behind in the improvements of the day; and this applies to every art based on rapidly progressive sciences, such as those on which the practice of medicine is founded. It may be for the interests of the few, that it should be otherwise, but is certainly hurtful to the student, who, be it remembered, is, at no distant period, to take the place, not only of the *practitioners* of to-day, but of his *teachers* themselves; and thus it is, that the vital interests of the public demand, not only that every facility be given to the advancement of the healing art, but that every encouragement consistent with justice and sound policy, be afforded. And here we beg to remark, that no hospital or dispensary that does not, to some extent at least, remunerate its medical officers,—who are the willing instruments of so much good, not only to the poor, but also to the rich,—stemming, as it were, the torrents of disease, which might otherwise overwhelm even the strongholds of wealth and power,—is entitled to the public support. It is not creditable to the managers and supporters of such institutions, to receive and expect the cordial assistance of physicians and surgeons, and at the same time withhold from them in any shape, that remuneration to which they are justly entitled, and which, did a wholesome feeling of justice pervade the public mind, they would not be permitted to want.[1]

We propose to take another opportunity of calling the attention of the profession to the subject of clinical instruction; and we shall conclude this notice by remarking, that to us it has always appeared a very short-sighted proceeding, not to place this, by far the most important branch of medical study,—because the end and aim of all previous studies,—on the widest and best foundation. It is quite clear, that in order to understand disease, the student must examine into each symptom and indication for himself; and if this be done under the direction of the physician and surgeon with whom he may have associated himself, it is obvious that much labour will be saved, and fatigue to the patient avoided. That this may be accomplished, however, it is also plain that there must be a restriction on the number of pupils specially attached to any one medical officer; and surely this is quite as necessary in clinical instruction, as in practical chemistry, in which, for years, such a limitation has been enforced with advantage. Much more might be accomplished in clinical instruction, were the number of students under each medical officer never to exceed from 20 to 25. In this way more minute attention could be afforded to the cases, and thus would the advantages to the student be increased; especially, if, as would naturally happen, the different medical officers turned their attention to different groups of diseases, at different times. For it is not so much the number of the cases, as the attention which is bestowed upon them, that contributes to the advantage of the student. And how, we would ask, is the latter to become acquainted with the various important methods of diagnosis by percussion, auscultation, mensuration, chemistry, and the microscope, without the expenditure of much time and labour, both mental and physical, on the part of his clinical teachers, who, when their time and energies have been exhausted in ministering to the wants of the sick, cannot be expected to give that minute attention to the wants of the student, which such duties imperatively require.

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[1] The two medical and the two surgical lecturers in the Glasgow Infirmary receive half of all the pupils' fees who enter the hospital. Besides this, the medical officers are allowed L.50, and the surgical L.30 annually. In a good paper on clinical instruction, in a cotemporary Journal, we find it stated, that "in Paris there are nine clinical professors, all of whom are named by *concours*, and receive L.400 a-year from the Faculty of Medicine. Of these nine, four are professors of medicine, four of surgery, and one of midwifery. They are bound to lecture at least three times a-week, immediately after visiting their patients, during six months of each year. Most of them, however, voluntarily lecture every day, Sundays and Thursdays excepted, during the ten months that the Faculty is open. Whether they lecture or not, they are obliged, like all the other hospital surgeons and physicians, to go through their wards every morning between the hours of six and ten." *Lancet*, 11th May 1844. From the same article, it appears that in London, clinical teaching, especially medical, "with two or three solitary exceptions, may be said to be unknown."

On Dysmenorrhœa and other Uterine Affections, in connection with Derangement of the Assimilating Functions. By EDWARD RIGBY, M.D., &c. Pp. 138. With 2 plates. London: 1844.

The perusal of Dr Rigby's work has not tended to make us give up what has long been a favourite speculation,—the benefit which would accrue to the reading part of our profession, were a court of censorship to sit on every work before it was permitted to go to press, and expunge such passages as are merely a useless repetition of what had been already published in our classical authors.

Dr Rigby starts with the rather sweeping assertion that "what little notice" uterine diseases "do excite, is chiefly directed to their local symptoms and treatment, and but little attention is paid to the functional derangements which are so closely connected with them." The first part of his volume, on "assimilation and its derangements," simply propounds what everybody ought already to know to be Dr Prout's opinions. Dr Rigby follows with implicit confidence that illustrious chemist in all his theories; but the disjecta membra of his most ingenious hypotheses receive little elucidation at the hands of our author, except in so far as they are made, for the first time, to apply to the affections of the uterus itself.

Thus we are told, (p. 2.) as if it were acknowledged truth, that secondary assimilation "comprises the conversion of the elements which form the blood corpuscles into the primary structure of cell life," the author forgetting the part which the *plasma* of the blood plays in nutrition. And, again, we are informed, (p. 8.) that the surplus products of primary assimilation, "not having been applied to supply the wants of the system, are subjected to the *disorganizing* action of the kidneys, and then thrown off;" a statement which begs the question, still unsettled, of the *modus operandi* of secreting glands. In the very same page, apparently in happy ignorance of the whole modern doctrine of the assumption by animals of the proteine compounds which vegetables alone are charged to form, and substituting for it a baseless theory, he states that the "albuminous principle is evidently not furnished directly from the food, but developed by the combination (of what?) with azote, which appears to be supplied (how?) from the circulation."

In the following passages, the author's meaning is far from being distinct. "In diabetes the peculiar *saccharine character of the disease* has been detected in the circulation." (P. 3.) "The simplest, easiest, and most common form of deranged assimilation, is that condition of the stomach, in which, either from an impaired or faulty state of function, or from food improper as to quantity or quality, its powers of digestion are so deteriorated, that its secretions are greatly deranged." (P. 4.) The *condition of the stomach*, whose function is merely digestion, is a *form of diseased assimilation!* The *secretion* (not the chyme) is deranged in *consequence* of its power of digestion being deteriorated!! and those *powers* are so *deteriorated* from an *impaired* or *faulty state of function!!!*

The author's object in Part I is, by quotations from Scudamore, Graves, and other authors, to show, (what these very quotations prove all the profession might know already,) that the mucous membranes, including that of the uterus, are apt to give evidence, by inflammation and by the secretion of gas, of the presence of the gouty diathesis. Part II is intended to evolve this fact as far as the uterus is concerned, and to describe the nature and treatment of what the author calls rheumatic gout of that organ. We shall allow him to speak for himself.

> "Rheumatic gouty affection of the uterus, as of other parts of the body, implies a certain series of local phenomena or symptoms, preceded or attended by a corresponding state of the general system; they are chiefly of a congestive or inflammatory character, or at least in some degree resembling the phenomena of inflammation, being attended with local vascular excitement of a more or less acute nature, with the chief features of inflammation; viz. heat, swelling, redness, and pain; or of a chronic form, with much venous engorgement, swelling, induration, and ultimately alteration of structure. The first form is

> more sudden in its attacks and recessions, more erratic in its movements; the latter more gradual, but fixing on the part with a firmer hold, and relinquishing it with proportional difficulty. The acute form is usually seen in connexion with dysmenorrhœal attacks, or with the interim excitement which is generally observed in such cases at the half-way time between the menstrual periods. The other is mostly attended by chronic leucorrhœal discharge, and chronic or subacute inflammation of the cervix uteri, followed by induration and organic disease." Pp. 37, 38.

To our knowledge of the symptoms of dysmenorrhœa, as exposed in our classical authors, Dr Rigby has added nothing; and the connexion of the disease with the rheumatic diathesis is not unknown to the profession. It is expressly described, for example, by Dr Locock, as well as in the work of Dr Todd, which, though quoting it elsewhere, our author passes unnoticed here; and if we are not indebted to Dr Rigby for our knowledge of the connexion between the uterine affection, and the rheumatic condition of the system, why, we ask, should he think it necessary to publish a volume to show, what every practitioner must see from the bare announcement, that such a disease must be treated generally as well as locally, and that the constitutional treatment must vary with the varying phases of the constitutional disease; that when the "primary assimilation" is deranged, this must be set right by the appropriate means,—mild mercurials, salines, mineral waters, and so on; that with reference more especially to the gouty and rheumatic condition, colchicum, guaiac, and iodine will often be very useful; that the functions of the skin should be particularly attended to, and that baths will be often productive of the greatest benefit; that when digestion is impaired, bitter tonics will frequently be used with advantage, and that regulation of the diet will always be necessary; and that the preparations of iron are the best means wherewith to combat the approaches of subsequent anæmia. We apprehend that such treatment would be adopted, in similar circumstances, by every intelligent practitioner, even had Dr Rigby never written; and in proof, we beg to refer him to the works of Dr Dewees, as to guaiac, of Dr Montgomery, as to iodine, and to Dr Copland's articles on *Leucorrhœa* and *Menstruation*. We think there is some self-sufficiency exhibited in the following paragraph, (page 53); for though what is said be all very true, we flatter ourselves,'that since John Abernethy's time it ceased to be new to our well educated *confrères*.

> "In considering the treatment of these affections, my object is to call the attention of the practitioner to the peculiar condition of the system on which they depend, and thus furnish sure and stable data on which to found his indications and course of treatment. It is of great importance that he should possess fixed and certain principles for his guidance in these cases, because, as the local affections are little more than part of a general diathesis, little permanent relief can be obtained for the one, unless an effectual impression be made upon the other," &c.

Warm baths, and camphor, with extracts of lactuca and hop, are recommended as palliatives, during the accession of the menstrual pain; local depletion, and particularly leeching the anus, when there is much local congestion; tartar emetic friction, when there is coincident inflammation of the ovaries, which Dr Rigby states may sometimes be felt enlarged and tender, on examination per rectum. This last is the only point which strikes us as having any novelty. The following artificial mineral water he prescribes with success as a stimulant alterative.

" R. magnes. carb., calcis. carb. āā ʒi.
" Acidi hydrochlor. q. s. ad saturandum.
" Calorem adhibe ad exsiccandum. Dein adde
" Aquæ distillatae ℥viii.
" Sodæ hydrochloratis.
" Sodæ sulphatis āā ʒvi.
" Tincturæ Iodinii ʒij. Misce.
" Sumat. cochl. magn. j ex cyatho aquæ tepidæ pleno bis die inter agendum." P. 109.

The main subject having occupied forty-four pages of the book, a like space is taken up by the detail of cases, which strike us as being better fitted to exhibit the phases of the disease, than any remarkable success in treatment, but which certainly go to prove the necessity of that patient perseverance in our efforts, which Dr Rigby takes care to inculcate.

We object most decidedly to the appendix, on the chemical examination of the urine, and to the two plates of crystals, &c., which accompany it. The whole adds *unnecessarily* to the expense of the book, and, moreover, it is both *incomplete* and *unsatisfactory*. The author should have avoided whatever might be construed into *book-making*, and contented himself with enforcing the necessity of making an examination of the urine, referring his readers, for the mode of doing so, to works expressly on the subject. Besides, in spite of the parade with which the analyses are set forth, we cannot, in reading the cases, discover that they are made particularly subservient to the regulation of the treatment.

PART THIRD.

PERISCOPE

ANATOMY AND PHYSIOLOGY.

On the White, or Opaque Serum of the Blood. By Andrew Buchanan, M.D., Professor of the Institutes of Medicine in the University of Glasgow.

"It is well known to all who have been in the habit of examining the characters of the blood, that the serum which separates from it, instead of being transparent and of a yellow colour as we usually find it, is sometimes opaque and turbid, white as if milk had been diffused through it, or otherwise discoloured. Such serum is usually spoken of as white or milky serum. My present intention is to submit to the Society a few observations as to the causes in which this remarkable appearance of the serum of the blood originates."

[After a sketch of the different observations made by others with regard to the milky appearance of the blood or its serum, Dr Buchanan proceeds thus :]—"My attention was particularly directed to this appearance of the serum in the year 1840, owing to the frequency with which it presented itself during some experiments I was then engaged in making on the constitution of the blood. I observed with Mr Hunter, that it was of very common occurrence in the blood of young women, who desired to be bled, either because they were, or supposed themselves to be pregnant; and whom, if no circumstances forbade, it was the custom to gratify in their request. Now, as these young women were for the most part strong and lusty, and therefore likely to take their food well, I was in doubt whether to ascribe the whiteness of the serum to their peculiar state of body, or to the food which they had probably taken not long before. To resolve these doubts, the most direct mode was to have a person in sound health bled at different periods after a full meal, so as to observe the effects of digestion upon the blood. Accordingly, a strong healthy young man, to whom a good dinner was an equivalent for the loss of a few ounces of blood, was easily prevailed upon to submit to the following regimen and treatment. He had no breakfast, and at four o'clock had for dinner one pound of beef-steak, half-a-pound of bread, sixteen liquid ounces of brown soup, and half-a-bottle of porter. Three ounces of blood were then taken from a vein in the arm at three different periods; the first time, half an hour after the meal; the second time, an hour and forty minutes after it; and the last time, next morning at eight o'clock, or sixteen hours after the meal, no food having been taken in the interval. The blood as it issued from the vein had the usual appearance, and the serum which separated from it was about the same in quantity each time. The first time the serum was whitish and turbid; the second time it was like whey; while the third time it was perfectly limpid. The crassamentum on the two first occasions exhibited nothing peculiar, while on the last it was covered with a transparent fibrinous crust beautifully interspersed with white dots; which led the medical friend who assisted me in these investigations, to compare it to a precious stone.

"As it might be supposed that this young man's blood was white before he took dinner, the two following trials were made to obviate that objection.

"A vigorous man of about 35 years of age, after fasting 19 hours, had for dinner, twenty ounces of beef-steak, sixteen liquid ounces of brown soup, and eight ounces of bread. He was bled immediately before his meal, and three times after it, two ounces of blood being taken away each time. The serum obtained from the first bleeding before the meal was perfectly limpid; the serum from the second bleeding, three hours and fifteen minutes after the meal, was turbid; the serum from the third bleeding, eight hours and fifteen minutes after the meal, was still thicker; while that from the last bleeding eighteen hours after the meal, was again quite limpid, although some supper had been eaten in the interval.

"The young man first mentioned, after fasting eighteen hours, dined upon sixteen ounces of brown soup, four ounces of bread, eight ounces of potatoes, twenty ounces of beef-steak, and sixteen ounces of London porter, and fasted eighteen hours after the meal. He had blood taken from his arm four times to the extent of two ounces each time. The serum of the blood first taken, immediately before the meal, was of an amber yellow, and quite transparent; the serum from the second bleeding, two hours and ten minutes after the meal, was turbid; the serum from the third bleeding, eight hours after the meal, was exactly of the colour of water gruel, and quite opaque; the serum of the blood last taken, eighteen hours after the meal, was still turbid, its limpidity not having been, as after his usual fare, restored by an eighteen hours' fast.

"In neither of the two last cases did the blood, as it issued from the arm, present white streaks, or any thing else unusual. The crassamentum of the blood drawn before the meal, was in both cases of the usual red colour on the surface, as also that drawn first after the meal in the last case; but in all the other instances it exhibited the same *pellucid fibrinous crust* already described, although not dotted in the same remarkable way. We can scarcely avoid the conclusion, that this pellucid crust is connected with finished digestion, when we reflect that out of nine bleedings practised within eighteen hours after a very full meal, this crust was observed on every occasion, if we except those in which the blood was drawn within three hours and a quarter of the period of taking the meal.

"These observations, the accuracy of which I have since had opportunities of confirming, appear to me to leave no doubt as to the origin of the white colour of the serum of the blood. When a healthy man is bled fasting, his blood yields serum of a transparent yellow colour, like light sherry-wine, varying in the depth of the yellow tint, but always perfectly clear. In about half an hour after taking food, the serum becomes turbid, the discoloration increases during several hours till it attains its maximum, after which the serum becomes again gradually clearer, till its limpidity is perfectly restored. The period at which the discoloration is greatest, and the length of time during which it continues, must depend mainly on the quantity of food taken, but also in some degree on its quality, as some kinds of food are digested more readily than others. It may however be stated, so far as the observations I have made enable me to judge, that after a full meal of different kinds of food, the discoloration is greatest about six or eight hours after the repast, and that probably somewhat more than an equal period elapses before the serum regains its limpidity. The differences of colour, which are considerable, probably depend on the different substances digested; and it is interesting in this point of view to remark, that the colour varies in the successive bleedings after the same meal, as if the different alimentary principles produced different kinds of discoloration, and entered the blood-vessels at different periods.

"It may be inferred from the facts narrated above, that the food digested in the stomach and bowels is introduced into the system, and mingled with the blood in a crude or half assimilated state; and that it requires to undergo a second digestion within the blood-vessels before it is perfectly assimilated."

After some interesting remarks upon the source of the granules causing the milkiness of the serum, and their relation to the digestive process, Dr Buchanan continues:—"If these views be correct, it is clear that a milky state of the serum of the blood is a phenomenon of the healthy body, and cannot in itself be regarded as a symptom of disease. There are, nevertheless, certain circumstances in which this appearance may serve to indicate the existence of disease, as when it continues during a longer period than according to the laws of health it ought to do. A case is mentioned above, in which, after eighteen hours' fasting, the serum of the blood was still loaded with white particles. The only inference that could be drawn from this fact, was, that the individual had taken a more than usually large quantity of food, and that the digestion in the blood-vessels was protracted in proportion. Perhaps it would not be warrantable to deduce any other inference, even were the milkiness to continue for twenty-four or thirty-six hours after a full meal. But when this milkiness continues for several days, although the appetite is gone, and no fresh supply of food taken, it then becomes probable that the digestion in the blood-vessels is no longer going on, as in the healthy state; being like all other functions of the body, subject to retardation and derangement from the condition of the organs by which it is performed."

Dr Buchanan quotes various observations in proof of these views, and among others, alludes to the condition of the blood in diabetes, as follows:—"It is a fact of great interest, which has been established by various observers, that in diabetes, the serum of the blood often presents the milky opacity in great intensity. This is no more than might have been anticipated from the very large quantity of food taken by those labouring under that disease, which is often three or four times greater than is consumed by persons in health; for if the stomach act upon the food in the usual way, it cannot but happen that the blood will be loaded with white particles. Many pathologists indeed suppose, that a deranged digestion in the stomach is the fundamental part of diabetes. But the fact here mentioned seems to me, in some measure, inconsistent with that theory; for it shows that the food in diabetes undergoes the usual changes in the stomach, and is introduced into the blood in the usual form, so far as sensible characters enable us to judge. We may therefore be allowed to conjecture, that the essential derangement in diabetes is not a derangement of the primary digestion in the stomach, but of the secondary digestion in the blood-vessels, by which the unassimilated nutriment no longer undergoes the same series of changes as in the healthy state."

Dr Buchanan then concludes with the following remarks upon the physical and chemical characters of this variety of serum:—"The colour of the serum is generally a milk-white; sometimes a cream-yellow; or a yellowish-brown, when the liquid bears a striking resemblance to thin oatmeal gruel. There is sometimes little discoloration, the serum merely losing its limpidity, and changing its hue so as to resemble a weak syrup made of coarse sugar.

"In all the instances in which I have examined the liquid with the microscope, it showed a great number of solid granules mechanically suspended in it. They are less in size than the corpuscles of the blood, generally of irregular shape; but often spherical, and having the appearance of a nucleus in the centre, most probably from the refraction of light. These particles were as abundant in the syrup-like serum, as in the more opaque varieties; but they were less regular in shape, and seemed to be themselves translucent."

It sometimes happens, as has been observed both by Hewson and Hunter, that after the liquid has stood for some time, the white particles separate from it, and rise to the surface like cream. Hewson attempted to effect this separation by churning the serum, but without success. I accidentally hit upon a process by which the object is readily effected. It consists in saturating the liquid with common salt, which so much augments its specific gravity, that the opaque particles becoming relatively lighter, rise to the surface, either immediately, or soon after. This process has the further advantage of preserving the liquid. I still possess some of the original specimens obtained in November 1840, on which the observations narrated above were made. One of them is the pure serum obtained before the meal. The other three contain white matter, which in two of them is still swimming in the liquid, nearly as when it first separated. In the third, again, the white matter, after swimming at the top for about two years, became denser, and fell to the bottom, where it has since remained. This precipitation was probably owing to the action of air; as I have twice known it happen in a single night, when the air was not excluded by filling the phial completely, and then firmly corking it. On examining with the microscope the concrete mass, after *creaming*, it is found to consist entirely of amorphous granules. It is obvious, indeed, that the white particles undergo a change in their mode of aggregation by the action of the salt, as they are readily separable by the filter after it, but not at all before it.

"The white matter separated by the filter is insoluble in water, and is thus easily purified from the salt with which it is mixed on the filtering paper, by steeping the latter in water, and then cautiously drawing off the water holding the salt in solution. Thus obtained it has the form of a fine white powder, which in two specimens in my possession bears a very close resemblance to wheaten flour. On holding a little of it in the flame of a spirit lamp upon a platinum spatula, it was immediately charred, and burned away almost completely. Dr R. D. Thomson was kind enough to examine a specimen of it for me, but it was too minute in quantity to admit of a satisfactory analysis. He found it quite insoluble in ether and alcohol, while it dissolved in caustic potash. On boiling it in a solution of sugar of lead, it gave traces of black sulphuret. He concluded, therefore, that it contained no fixed oil, and consisted most probably of a *proteine compound*, like albumen or fibrine."

"A further opportunity was afforded of examining the chemical qualities of this kind of serum in some specimens obtained for illustration, with the prospect of submitting this subject to the consideration of the Society.

"A man about thirty years of age, after fasting eighteen hours, dined upon twenty-four ounces of a pudding, consisting of two parts wheaten flour, and one part suet, seasoned with salt. Two ounces of blood taken before the meal, yielded a perfectly limpid serum. Seven ounces were taken three hours after the meal, and the same quantity six hours after it. The serum from the former was like syrup, but a little white; that from the latter was milk-white. The white matter in the latter was separated by Dr Thomson, by means of salt and the filter, and appeared similar to the substance he had before examined. It contained no fixed oil. The other specimen of serum threw up its cream spontaneously. It left upon the filter only a trace of white matter, but a notable proportion of a fixed oil, which was easily demonstrated, by merely drying the filtering paper, and holding it between the eye and the light. It can scarcely be doubted that this oil was derived from the suet of the pudding, while the white proteinaceous substance most probably represented the gluten of the flour. Thus two of the three elements of which the food consisted, were found in the blood, but the starch, the most abundant of all, was sought for in vain."

"*Postscript.*—After the meeting of the Society on the evening of the 13th it occurred to me as possible, that the starch might be converted by the organs of digestion into sugar, and be absorbed in that form into the blood. I accordingly procured some yeast next day, and treated with it the serum of the blood, which had been taken three hours after the meal, proceeding in the same way in which I am in the habit of examining diabetic urine. Fermentation ensued, and continued about forty-eight hours, the heat not having been regularly maintained. The serum from the blood of another individual who had used the same diet, but more sparingly, was treated in the same manner, when the same result ensued, only the gas was somewhat more abundant. But what struck me as more remarkable still, was, that the serum of the blood which had been taken from both these individuals after fasting, likewise fermented; although the quantity of gas obtained was much less than in the former instances. I found that the largest quantity of gas obtained in these experiments was about equal to that obtained by means of the same apparatus, from a solution of sugar in water, containing five grains to the ounce. Should farther observations confirm the idea here suggested of the existence of sugar in the blood as a normal product, it is obvious that a corresponding modification must be made of the prevailing theories of diabetes, according to which the production of sugar is regarded, as the essential derangement of action in which that disease consists." —Abridged from the *Transactions of the Glasgow Philos. Society*, March 1844.

NOTE ON THE STATE IN WHICH FIBRINE EXISTS IN THE BLOOD.

By ANDREW ANDERSON, M.D.

It has been for some time the general opinion among physiologists, that the fibrine of the blood is liquid during life, and becomes solid when that fluid dies. The common notion of the change which takes place on coagulation has been well expressed as follows:—

$$\text{Living Blood,}\left\{\begin{array}{lll}\text{Plasma} & \left\{\begin{array}{l}\text{Fluid}\\ \text{Fibrin.}\end{array}\right. & \text{Serum}\\ \text{Globules, ...} & \Big\} & \text{Clot,}\end{array}\right\}\text{Dead Blood.}$$

From this opinion there have recently dissented M. Mandl and Dr Andrew Buchanan. These gentlemen hold, that while of the corpuscles of the blood the *red* take no part in the coagulation, and are merely engaged as it were by accident in the clot, from which, by the above mentioned means, they may be artificially excluded; yet the *white* corpuscles and the *molecules* which exist in the fluid, really constitute the fibrin; and that the coagulation consists simply in the aggregation of these previously isolated bodies. Dr Buchanan's opinion to this effect is based upon what he conceives to occur in the case of the fluid of blisters and of serous cavities. I have carefully watched the fluid of a recent blister coagulating under the microscope, and find that the delicate clot forms independently of the corpuscles, as it is seen to occupy the whole area of the field of view, while, at most, two or three corpuscles may be scattered over it.

Again, it is true that the very curious experiment which we owe to Dr Buchanan, the mixture of the serum of blood and that of hydrocele, exhibits after standing for some time a marked coagulum; but I submit that neither is this a proof that that coagulum is derived from the corpuscles existing in the fluid in which it forms; for I have divided such a mixture into two equal parts, and while leaving one untouched, have separated by filtration all the corpuscles from the other while still fluid, and tested their absence by the microscope, and yet the eye could detect no difference between the coagula subsequently formed in the two portions—nor, when aided by the microscope, any corpuscles newly formed.

The *experimentum crucis* is the examination of the changes which occur in the plasma of the blood itself; and this may be effected by removing with a spoon a portion of the incipient buffy coat, (the whitish fluid which floats before coagulation on the surface of inflammatory blood,) and placing it under the microscope. This fluid is the blood *minus* the red corpuscles, which attract one another more strongly in inflammatory than in healthy blood, and sink rapidly in the fluid. Our view, then, of the changes which occur being no longer obscured by their presence, we watch the plasma swarming with molecules and white corpuscles, the latter always most abundant in inflammation, as may be seen even by placing a drop of the just abstracted blood under the microscope between two plates of glass, to which the white corpuscles stick because of their greater size, while the red are known by their smooth outline, their central nuclei, and elongated profile.

As we watch the plasma it has become partly solid, but no visible change appears; the corpuscles remain quite still, and it is only by drawing across the glass a needle, which carries the whole in a mass along with it, that we find that they are engaged in a thin coagulum. There is then no running together of the corpuscles; but so far we are still in doubt whether the clot may not be formed by their cohesion: the doubt is resolved by simply continuing to look: we have drawn aside the forming clot before its solidification was complete; and have left a clear fluid *perfectly free* from corpuscles of any kind, and yet in this again the coagulation takes place; it must, therefore, be from a solidification of the previously fluid fibrin.

So far my observations agree with those of Dr Addison, published after mine had been made; but he states that the fibrine solidifies in the form of fibres, and figures these of a somewhat stellate or spiculate appearance. In the existence of this sort of crystallisation I wholly disbelieve. I have repeatedly seen the whole field of view occupied uniformly by the extremely delicate clot, so fine and transparent as to be distinctly visible only when its edge was drawn across the glass with a needle, and thus contrasted with the remaining limpid fluid; and of which the structure was so faintly fibrous, that with the greatest difficulty, in a carefully modified light, there could, with a power of 600 diameters, be just traced, distributed equally over the whole surface, a most delicate striated appearance. It is true that afterwards the coagulum becomes fibrous, but this is the consequence of a subsequent contraction, the nature of which has not been satisfactorily explained, but of which I can say only this, that save its lessened size, and a slight increase of the fibrous appearance, no change, by motion or otherwise, could be observed in a coagulum prepared as above, and allowed to remain for twenty-four hours in a covered glass cell under the microscope, till it had fully contracted, and squeezed out all the serum from its interstices. —Abridged from the *Transactions of the Glasgow Philosophical Society*, Jan. 1844.

ON THE SALIVA. BY DR SAMUEL WRIGHT, Birmingham.

Dr Wright's papers on the saliva, 19 in number, contain a very learned, complete, and instructive account, experimental and practical, of the chemistry, physiology, and pathology of this secretion. Its composition he has very fully investigated, and has described in minute detail his analytical process. He retains the name *ptyaline*, originally given by Berzelius to a peculiar principle in the saliva—though he separates it by a process different from that used by Berzelius. Sulphocyanogen, he says, is always present in healthy saliva, though in the diseased varieties it is generally deficient in quantity, and is sometimes wanting, as is also *ptyaline*. Dr Wright's chemical examination has lately been for the most part confirmed by Budge and Lehmann, in Germany.

Dr Wright says that *healthy saliva* is invariably alkaline from the presence of soda—it is rarely neutral, as in long fasting—but never acid. The secretion is capable of very sudden increase of alkalinity, according as it may be required to mitigate acrimony, or to neutralize acidity, in the stomach. He further states that saliva contributes to digestion, both by a stimulant action upon the stomach, and a solvent (chemical?) action upon the food.

According to Dr Wright's experiments, frequently repeated, and varied, saliva possesses remarkable physiological properties. The secretion obtained during a healthy and energetic state of body, when injected into the arteries and veins, produced symptoms exactly resembling those of hydrophobia. The saliva of indigestion, and of hysteric ptyalism, either failed to produce such effects, or produced them in a very mild degree. Dr Wright states that there is no difference detectable by chemical analysis, between the saliva of perfect health, and the saliva of hydrophobia. He disbelieves in the existence of any specific virus in the saliva of rabid animals, affirming, " that the only conclusion to which an extended and deliberate inquiry has enabled him to arrive at is, that *the saliva thus unnaturally active differs from the healthy fluid only in possessing in an undue degree the properties which are peculiar to it.*

The pathology of saliva, Dr Wright has treated very elaborately, and with much practical care. He enumerates 19 varieties of diseased saliva, 4 of which he subdivides into minor varieties. These different forms of morbid secretion are representative of local or general disorder, and the careful study of them would seem to constitute an important addition to the science of diagnosis. The various affections of the salivary glands, whether idiopathic or symptomatic, Dr Wright treats, as the cases may require, with sedative, astringent, and stimulating gargarisms. The two former are used when the salivary secretion is abundant, and the glands irritable, and are occasionally aided by blistering behind the ears, at the back of the neck, &c. The latter is used when the glands secrete a scanty or a depraved saliva, and is also, when necessary, aided by blistering under the jaws, local electric shocks, &c.

In the critical salivations of acute diseases, and in cases wherein the salivary glands act vicariously of other organs, he especially urges that the flux be maintained, in the one case, until the active symptoms have subsided, in the other, until the secernent action has been restored to its proper organ.—Abridged from *Dr Wright's Memoirs in the Lancet.*

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE HUMAN OVARY.

By CHARLES RITCHIE, M.D., Glasgow.

[A series of papers under this title is in course of publication, in the *London Medical Gazette.* It embraces a talented detail of dissections of the ovary in all ages and conditions of the female, as regards menstruation and pregnancy, and concludes with a summary of the facts elicited in the previous investigation. The dissections are treated of under the two general divisions—of cases in which impregnation had never occurred, and of those made in individuals who had been gravid; the former, again, being arranged into five, and the latter into nine sections, according to the state in respect to menstruation, or the period of time as regards pregnancy; the whole comprehending more than a hundred cases, described with much minuteness. These, from their nature, do not admit of condensation; but the *resumé*, which embodies a succession of most important particulars, (and to some of which we may refer more specifically in closing,) we shall give in our present and following numbers, without other alteration than the omission of the references to the necropsies on which the difficult propositions are based.]

1. The Fallopian tubes of the infant, and of the child before puberty, are perfect in their structure, although their patency is more or less obstructed at birth by the presence in them and in the uterus of a tenacious glue-coloured mucus; and immediately before the establishment of menstruation, and throughout adult life, they are occupied, and have their uterine extremities in particular distended by a cream-looking fluid, similar in appearance to the ordinary vaginal secretion, and which, as observed by the microscope, consists of innumerable very minute globules, aggregated into masses usually of an oval form, and possessing a specific character, different from the globules either of blood or of pus.

2. The ovaries of new-born infants and children are occupied, sometimes numerously, by Graafian vesicles or ovisacs, which are highly vascular as early as the sixth year, and vary in size from the bulk of a coriander seed to that of a small raisin, in the fourteenth year, at which time, also, they are filled with their usual transparent granular fluid; their contained ova can be detected, and their coats are so elastic that their contents, on their rupture, may be projected to at least twelve inches: the existence of menstruation not being essential, therefore, to these conditions, either as a cause of them or as an effect, and the possibility, even at this age, should rupture of the follicles occur, of their contained ova being conveyed to the uterus along the Fallopian tubes, kept patent by their peculiar secretion, will be admitted.

3. The Graafian vesicles contained in the ovaries prior to menstruation, are found, as they also are in every other period of life, in continual progression towards the circumference of the glands, which they penetrate, discharging themselves by circular-shaped capillary-sized pores or openings in the peritoneal coat; the presence of the catamenia being thus no indispensable prerequisite to their rupture.

4. The establishment of menstruation does not necessarily give rise to any immediate modification in the manner in which the ovisacs are discharged, or in the subsequent changes which these bodies undergo; but in some cases the conditions which obtain in the period before puberty are extended for a time, into that of menstruation.

5. The ovisacs[1] of the healthy menstruating female are, as a general rule,

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[1] The term ovisac is used throughout this paper as a synonym of the Graafian vesicle or follicle.

larger, and more injected with red vessels, than they are previous to the setting up of that condition; but such change may have interposed a transition state in which the appearances peculiar to both, or the small-sized vesicles of the interior of the ovaries, the miliary copper-coloured maculæ, the numerous but delicate vesicular elevations and punctiform openings of the surface, of the infantile period, and the pisiform, turgid vesicles, the organized cysts, and the angular or linear cicatrices of the menstruating, are intermixed.

6. Menstruation gives rise to a congested state of the uterine vessels, manifested by a redness and increased vascularity of the vagina, and by the production on the internal surface of the cavity of the uterus of a mesh-work of deciduous villous vessels, which may remain for at least two weeks.

7. The progression of the Graafian follicles, or ovisacs, towards the surface of the ovaries, their appearance under the peritoneal coat as copper-coloured macules, the absorption of that membrane, and of their own tunics, and the occurrence of a solution of their continuity at the point at which they unite, take place in the menstrual, precisely as in the anti-menstrual life; but in the former the vesicles are increased in bulk, vascularity, and organization, so that on their rupture there is generally a greater lesion of the peritoneum, and, after the escape of the ovulum and granular fluid, a larger effusion of blood into the vesicular cavity, and more remarkable subsequent changes in the coats of the ruptured cysts than in the non-menstrual state.

8. The shape assumed by the ovisacs is circular, elliptical, or triangular, according very much as they occupy the body of the ovary, its margins, or the central point of its free edge; and the cicatrices left by their discharge are often irregularly linear or circular, according to the same circumstances.

9. The ovisacs of the human female do not require the establishment or presence of menstruation for their development or rupture. Vesicles of adult size may exist and be discharged about the age of puberty, as also at other periods of life, independently of menstruation; and this state may be present in its normal form for at least eight consecutive periods, without a vesicle being ruptured, unless after the manner, and with the phenomena, which occur in childhood.

10. The only circumstances essential to the discharge of ova are the rise of the vesicles which contain them to the surface, and the gradual thinning of the ovarian peritoneum, and of the coats of the ovisacs at their point of union; and although, from the augmented circulation of blood in the uterus at the menstrual period, it is possible that the rupture of vesicles which are thus prepared may happen more frequently at that than at any other time, there is yet no reason to suppose that it does so then exclusively, or that it may not take place during the intervals, menstruation being often present without any such rupture.

11. The appearances presented by the ovaries, Graafian vesicles, and by the blood which is contained in the latter subsequent to their rupture, vary according to the time at which they are examined, and the absorbing power of the individual.

12. In cases of the recent evacuation of an ovisac, the peritoneal coat of the ovary is occupied by a jagged slit or opening, having a florid vascular areola; in those of longer standing the opening is covered over, with the exception of a minute circular foramen in the centre, or where the slit has been of great length, of two such openings, with new tissue, surrounded by a claret-coloured margin; and in those still more ancient, the whole is healed up into a cicatrix, which is more or less superficial, and free from discoloration, according to its age.

13. With respect to the blood which is generally contained in the ruptured vesicles, it is seen at first as a florid coagulum, next having its centre only scarlet-coloured, and its periphery more or less black, and perhaps furrowed; frequently the clot has a gamboge colour, from the decomposition, or has become pale from the absorption of its red globules; and lastly, the clot is found in different stages of absorption; but it sometimes also happens, and that indifferently in every variety of the uterine state, that the ruptured follicles are found empty, or containing only an aqueous fluid.

14. The coats of the ruptured ovisacs have been found in four different general conditions, apparently dependent on the relative degree of organization, and each class presenting, also, modifications of their respective characteristics, proceeding partly from the same cause, and partly, also, from changes connected with the period of their progress in which they were examined.

15. The first class was distinguished by the attenuated state of the coats of the ruptured ovisac, and by the total absence of any organic changes in these different from their condition previous to their discharge; the only alterations observable being,

A. The mechanical dying of their coats of an inky black colour, proceeding from their contact with their contained decomposed blood, and which bodies have in the descriptions been denominated corpora nigra.

B. The dying of their coats of a yellow tint, from their enclosed clot of blood having become converted into a rust-coloured pigment, not unlike some of the denser sputa of acute pneumonia. These I have taken the liberty of calling, in the grammatical sense, corpora lutea, omitting at the same time the use of this term in its ordinary scientific meaning.

This first class of ruptured ovisacs was found indifferently in all ages and states subsequent to puberty.

16. The second general class of ruptured vesicles was characterized, in addition to the presence of blood within their cavities, or, sometimes, when this had been either partially or entirely absorbed, of a black or of a yellowish stain, by organic changes in their coats, consisting, progressively, of an increased vascularity, a thickening, a whitening of the colour, and, finally, a corrugation of their tissue, and was observed,—

A. Under the form of soft white bodies of a yellowish, fatty aspect, having the outer coat much thickened, while their inner remained as a delicate diaphanous pellicle.

B. As dense white bodies of a whitish, shining, firm structure, their inner coat being the seat of these changes, and their outer adhering loosely as a transparent, pellicular layer.

A. The discharged ovisacs which constituted the soft white bodies were seen—

1st, At a very early period after their discharge, their walls distended with a coagulum, and painted with turgid vessels, but not being divisible into layers.

2d, In a similar state, except that the inner membrane had a swollen, puffy look, and from the looseness of its adhesions to the more external layer, could be easily gathered into folds.

3d, At a period so advanced that the clot had become uniformly black and solid, the inner layer was easily separated from the more external, which was also thickened, and become of a yellowish colour, having a resemblance to the walls of an artery.

4th, At a point still more advanced, the outer thickened, yellowish coat, had become corrugated into wrinkles or folds projecting into the cavity and covered by the soft inner layer, sometimes died yellow or black, as at 15 A. B.

5th, At what appeared to be yet a more lengthened period, the cysts were converted into yellowish-white, and generally globular bodies, more or less fissured from their contraction, and sometimes in process of absorption, having a granular-looking structure, and seldom being divisible into laminæ by simple dissection.

B. The dense white bodies were seen,—

1st, With inner layer still vascular, but thickened.

2d, With vessels of inner coat nearly obliterated, and it converted into a tenacious membrane, of the thickness of writing paper.

3d, With inner layer of ovisac as a thick, opaque, deeply wrinkled or corrugated, and rocky cyst, or, sometimes, partially diaphanous, and of a shining, pearly aspect, and very white colour, most generally empty, but sometimes containing a yellow, or greenish, transparent fluid, or a clot of blood, either unchanged, or converted into a yellow or black pigment (as at 15 A. B.), the outer layer of the sac being a mere film or pellicle.

17. These white bodies (corpora albida) were found in every variety of uterine condition subsequent to the establishment of menstruation, but never before it, and the dense kind especially were persistent for a long period.

18. White bodies, as such, had no necessary connection with the gravid condition, but occasionally they were, especially the dense variety (the corpora lutea of Baer), the only specialty observable in the ovaries of the puerperal female some time after delivery.

19. The third general class of discharged ovisacs was distinguished by the secretion of an organised, yellow-coloured, brain-like, granular matter, and differed.

A. As the cerebriform matter was connected with ruptured ovisacs of (15) the first class, having transparent, pellicular coats, or with those of (16) the second class, having either their outer or inner coat thickened.

B. According as the granular substance was deposited external to the inner layer only, or to the two internal layers of the ovisac.

A. In menstruating females, and also during the first months of the gravid state, and sometimes even in the period of lactation, the ovaries were found occupied by one or more, and, at times, by five or six yellow bodies or cysts, the structure of which, especially in the more perfectly organized specimens, presented a striking resemblance to the convoluted, reddish-yellow surface of the brain, covered by its inner membranes, and painted with its scarlet-coloured and dark vessels, and which, in the cases which admitted of it, had some resemblance, when it was examined by transmitted light, to the appearance presented by granules of adipose tissue. The coverings of the cysts were often, in delicate or in unhealthy females, or when their absorption was advanced, so attenuated as not to admit of demonstration, but in general they possessed the structure and appearance of the coats of the ovisac as these exist previous to the rupture, and in other instances they had undergone various degrees of that process of thickening by which the maturated and discharged Graafian vesicles or ovisacs are transformed into white bodies.

In the cysts with thin transparent membranes, the inner surface was, with some exceptions, where a membrane could not be detected, found lined by a delicate pellicle, which was often stained with blood, through which the yellow matter was visible as a dirty, cream-coloured pulp, or a paste of moistened white lead, which had been soiled, but at other times, when the blood was absorbed, the inner, and, in all cases, the outer surface of the cyst exhibited the ordinary distinctive cerebriform character; and on scratching either aspect with a lancet, the granular matter was exposed situated between the two membranes.

In those instances, again, in which the outer membrane had ceased to be transparent, the cysts, when insulated, displayed a cartilaginous-looking exterior, having the yellow matter arranged on its internal surface covered by the inner membrane still diaphanous, although better organized than in those already described.

In proportion to the age of these cephaloid bodies, and perhaps also to the absorbing power of the female, they were found undergoing different degrees of diminution. In those possessed only of thin coats, or having the outer layer as the seat of thickening, the walls of the cysts speedily contracted and coalesced, when their centres exhibited, in the less organized, a delicate opaque streak; and in those better developed, a serrated, curved, and well-marked white line, according as the cyst was of an elliptical or of a globular form.

This variety of cerebriform cyst, in which the walls were pellicular in their structure, or the outer coat only thickened, the granular matter being deposited in both cases between the layers, was met with in a recent state indifferently in immediate connexion with the existence of menstruation and of the first seven months of pregnancy, and in this latter case, and also, in a conversion of this form yet to be (20) described, they constituted the corpora lutea of Dr Montgomery.

B. In another variety of this granular deposition the new tissue was found external to the two innermost layers of the Graafian vesicle, these latter being, in such case uniformly, converted into a dense white body (16 B.) surrounded by an envelope of yellow matter. Such cysts (corpora lutea of Dr Lee) were never observed as an effect of menstruation simply, but were met with exclusively in the gravid female; although they were seen, as was sometimes also the cephaloid body with soft coats (19 A.) just described, presenting double in some cases of single conception.

This form (19 B.) of corpora cephaloidea was generally distinguished by large, persistent, white, glistening cavities, and, when divided by cerebriform striated rings, the matter of which latter was found nearly quite absorbed three days after parturition, and had disappeared entirely in another case, three weeks after delivery at the natural term, the parchment-looking inner layer, with its delicate, transparent envelope, being left in the form simply of a dense white body. A modification of these characteristics occurred when the usual cellular connections uniting the elastic internal coat of the ruptured vesicle with the more external had given way, and permitted the former to become rolled up as an almost solid pellet within the granular matter still lined by the latter; and another modification was when the granular matter, instead of suffering absorption, became more vascular, and converted into (20) a red body, precisely as in the former case (19 A.)

20. The fourth general state of the ruptured ovisac was peculiar to the impregnated and lactating female in the period between the eighth and thirteenth month after conception, and appeared to be a conversion of the forms (16 A. B. and 19 A. B.) already described, arising out of a higher and more perfect organization. The condition was not observed till subsequent to the seventh month of utero-gestation, or later than the sixteenth week after delivery, and in some instances as clearly as two, three, five, ten, and twelve weeks after parturition at the natural term, it was also absent.

Down to the seventh month of pregnancy, the cysts contained in the ovaries did not differ in any respect from the cerebriform bodies found in the unimpregnated state, unless that they were sometimes plumper, more vascular, better developed, and had their inner layer more frequently thickened. At the ninth month the yellow granular matter had lost the rhubarb-colour which it before this occasionally presented, had become more dense, and of a pale, slightly yellowish hue or fawn-colour, changing to faint red on the access of air. Its structure was now about an eighth of an inch in thickness, and appeared as if formed of extremely delicate fibrils, which lay obliquely across, alterations supposed to depend not only on the vital causes, but also on the contraction of the cyst, the cavity of which, having its inner surface covered, except in those instances in which the inner layer was the part thickened), by the peculiar internal membrane, was now reduced either to a curved groove or to a circular stellated point, according to the shape of the cyst; a configuration produced by the corrugation on the plastic cobweb structure of the inner membrane of the highly organized and elastic outer layer and cerebriform matter.

At the end of the first month after delivery (tenth month), the external ring was of a mottled yellowish-red, and sometimes of a decided rose colour, and became very florid on exposure to the air, its section having some likeness, in the oblique arrangement of its seeming fibres, to that of the left ventricle of the heart. In one case, at the end of the second month after parturition (eleventh month), this ring is described as being of a brownish red colour, and as resembling the horny and glistening tissue of the condensed cuticle around some kinds of clavi when newly pared; and in another instance, in which the second month was completed, it appeared as a corneous, grey-coloured, semi-transparent substance, having a striking resemblance, in its linear arrangement and fleshy colour, to the human nail in the living subject, as it rests on the subjacent pulp; its colour when examined by transmitted light appearing to depend on the presence of red vessels, which in a case at the fourth month (thirteenth month), were seen proceeding from a capsular investment.

In three instances of ovaries belonging to gravid women, which were observed, there were important modifications from those described, in the structure of the red bodies. In one case, while the redness was still situated in the outer layer of the Graafian vesicle, the inner layer, instead of being a mere pellicle, as was usually the fact, was thickened, and opaque, as in the cerebriform bodies (19 B.) already spoken of as having been seen only in the puerperal state; and in two others again, both the redness and thickening were situated in the inner layers, the cysts being obviously undergoing conversion into the condition of dense white bodies, (16 B.) just as often happens in the virgin. In one of the latter, also, the inner aspect of its vascular surface was covered with a yellow pigment of what seemed to be (corpora lutea 15 B.) disorganized blood.

21. The rose or red coloured (corpora rubra) fibrous bodies (twenty) now described, although, in their most usual form as consisting of an external very vascular portion, enclosing an opaque film, they were found exclusively in puerperal females, were yet not always present in the gravid or recently puerperal states.

Up to the seventh month of gestation cerebriform bodies only were seen, and in one case the same thing was observed eight weeks after delivery; while in another individual dying two weeks, and in the third three weeks, and in a fourth, five weeks after parturition, neither rose-coloured nor cerebriform bodies were present, the only ovarian cysts detected being the two varieties of white bodies (16 A. B.), a state of matters which was renewedly observed at the eighth, tenth, twelfth, and sixteenth weeks, and also at various more advanced periods after the birth of the child.

22. This excess of corpora albida over every other physiological appearance in the impregnated ovary, seemed to result sometimes, from a gradual obliteration of the vessels of the highly vascular outer coat and cerebriform matter lining it, which had constituted it in succession a cerebriform body with transparent membranes (19 A.), and afterwards, a corpus rubrum (20) with single cobweb-like lining, and ultimately, a soft (16 A.), white body; and, again, to to be produced at other times by the absorption of the cerebriform matter which had been previously arranged external (19 B.) to the thickened inner and pellicular more external layer of the cyst; while in another description of cases the total absence of granular deposit was noticed in such circumstances as to give much countenance to the supposition that in some instances of conception this phenomenon may not take place at all; but that, as sometimes occurs in the unimpregnated female, an increased vascularity and organization of the outer or of the inner layer of the ruptured vesicle is succeeded at once, without any such intermediate stage as involves (19 A. B.) the deposition of the brain-like matter, by the formation respectively of a soft, or of a dense white body, as at 16 A. B.

23. In many puerperal women bodies of identical character, but in different stages of progression, were often found together, and it was then supposed that the best organized cysts were at once the most recent, and those which had furnished the fecundated ova; and that the others had been in existence for too long, although not necessarily a very long time before the occurrence of conception, to permit them to take on any increase of development consequent on gravidity.

24. In other pregnant women, in none of which had there been twins born, and in one of which the fact of there being a single exception only, was capable of being demonstrated, two bodies of a similar kind, and of equal organization, were found either in the same ovary, or in the two; and in such it was impossible to determine the productive from the non-productive vesicle, and their rupture, therefore, was believed to have been coetaneous, and that while the ovum of the one only had been fecundated, the coats of both, alike capable of taking on a higher organization, had been exposed equally to the increased ovarian circulation consequent on utero-gestation.—*London Medical Gazette*, 1844.

PRACTICE OF PHYSIC AND PATHOLOGY.

Two Cases of Scirrhus of the Pancreas; with Observations on the Diagnosis of Affections of that Gland. By Francis Battersby, A.B., M.B., T.C.D.

At the present time, of all the organs in the body there is, perhaps, not one whose diseases are so little attended to, or thought of, as those of the pancreas, and this arises, partly from the symptoms during life, connected with its affections, being so obscure and ambiguous as to be generally overlooked or misinterpreted, and partly because, as Lawrence remarks, "morbid changes in it of any kind are extremely rare." It becomes therefore a duty to record every instance of the latter tending to throw light on its pathology, for the history of which Abercrombie says, "facts are wanting;" and it is with this view I beg permission to exhibit to the Surgical Society the morbid parts concerned in the following case, which, in some respects, will be found not undeserving of attention.

I. On September 3, 1843, I was requested to visit Mrs M., a lady, aged between 55 and 60 years. She had been remarkable for her *embonpoint*, and had always enjoyed good health until two years previously, when she became subject to severe pains in the back, which affected also the shoulders and arms, and were supposed to be rheumatic. After the lapse of a year, there was discovered in the epigastric region a deep-seated pulsating tumour, about the size and shape of an orange, having a regular diastolic enlargement synchronous with the pulse, and a well-marked *bruit de soufflet*. Her disease was in consequence considered to be aneurism of the aorta, by (I have permission to state) Mr John Hamilton, Surgeon to the Richmond Hospital, who did not, till after a most careful examination, arrive at this conclusion, warranted by the foregoing facts, which I have given in his own words. She also suffered from fluid eructations, and an obscure, deep-seated pain.

In the course of a month or two this tumour subsided, and the pulsation ceased. A new set of symptoms then arose: the uneasiness extended over the abdomen, and the stools were passed with pain and forcing, which after a while became of such severity as to resemble, as she said herself, the pangs of labour.

I found her extremely emaciated. She looked like a skeleton. Her complexion was of a dingy, leaden hue, and the conjunctiva of the eyes was slightly jaundiced. She suffered very much from constant pain and uneasiness in the lower part of the abdomen, which was somewhat prominent and tympanitic, particularly in the region of the cœcum.

There was a marked fullness of the epigastric region, in which was to be felt a deep-seated, solid, and fixed induration, having a flattened surface, and a defined outline inferiorly, which ran transversely between the cartilages of the ribs. It was without pulsation, but a *bruit de soufflet* was audible on the application of the stethoscope over it in the course of the aorta. There was a continued unpleasant sensation in the epigastrium and right hypochondrium, increased by pressure on the swelling, which seemed to be totally unconnected with the stomach or liver. Constipation invariably aggravated her suffering, and the bowels were seldom moved without the use of lavements (of which she could not receive more than a pint at a time) and aperients; and the passage of the stools was attended with violent straining and intense distress, which drew from her screams, loud and piercing. The stools generally consisted of watery, ropy mucus, déficient in bile; when at all solid the fæces were not thicker than a small sized finger. Her body, whether in bed or out of it, was always in an incurvated posture, bent forwards. She was in a constant state of anxiety and restlessness, never enjoying sound repose for any length of time continuously. Her appetite, hitherto good, was now nearly gone. She used nothing but fluid nourishment in small quantities, since having had, a week or two before, an attack of dysphagia, which had been removed by the application of an opiate plaster over the pit of the stomach, and she still continued to wear a portion of it, of the size of a crown-piece, over the top of the sternum, believing that it kept off any return of the complaint. Even fluids she disliked taking, as their passage, she said, always made her worse. At no time had she been subject to vomiting, but there were occasional eructations of a clear watery fluid, not exceeding a table-spoonful at a time, which she described as being bitter. Her mouth seemed always full of saliva; the tongue was pale and clean; there was no thirst. Pulse 70, intermitting, and variable in strength. The legs and thighs were highly anasarcous.

She died on the 2d October, little alteration having taken place in the symptoms, except an increase of the dropsy, and that, towards the conclusion, she did not suffer much unless when the bowels were being moved. Opiates and mild laxatives were the only remedies which procured relief. Mercury was not given in any shape. The ptyalism and eructations persisted throughout. When questioned about her complaint she used often to lay her hand over the epigastrium, and declare that there was the source of all.

Thirty-six hours after death I examined the body, assisted by Mr Brady, of Newtown Mountkennedy.

There was extreme emaciation; anasarca of both upper and lower extremities; fluctuation in the lower part of the abdomen. The hard prominence of the epigastrium was very distinct, all tympanitis having disappeared.

The cavity of the abdomen contained about a quart of clear straw-coloured serum. The rectum in its entire length was flaccid, and empty. The rest of the large intestine was very much contracted, containing a thick, tenacious, pale mucus; the mucous membrane was healthy, but vascular. The sigmoid flexure of the colon, for the distance of three or four inches from the sacro-iliac symphysis, was particularly narrowed, the sub-mucous tissue being thickened, dense, and of a pearly white colour; the muscular tissue was also hypertrophied, and of a bluish hue. This part of the colon was firmly bound down in its position by a hardening of its mesentery, which presented a great thickness where it divides to inclose the intestine, and it had in that part a dense, firm, and knotted feel, with small nodules of hard, yellow, adipose material, projecting under its surface. The same degree of alteration was remarkable as far up as the transverse colon inclusive, and the sub-peritoneal cellular tissue of the left side, generally, was indurated and contracted; even the spleen and kidney were thus affected; the latter was smaller than the one of the right side, and firmer; its cortical substance was atrophied, and its pelvis was very vascular.

The gastro-hepatic omentum was very dense, hard, and much thickened, especially that part of it in front of the foramen of Winslow, and the contained vessels and ducts were intimately cemented together. The same thickening and hardening had invaded the cellular tissue surrounding the cardiac orifice of the stomach, which forcibly resisted the introduction of even the little finger.

The stomach was small, and its mucous membrane dark-coloured, but otherwise presenting nothing remarkable, except that it was connected with the left extremity of the pancreas, which was universally hard and enlarged, and had lost every trace of its natural structure. Near the centre of this gland, and at its lower edge, existed a thin, translucent, horny cyst, which was slightly prominent, about the size of a walnut, and lay directly over the aorta. Its base was surrounded by a hard, cartilaginous, scirrhous formation, which in part projected into it. The rest of the gland was composed of a less solid, but unyielding, heavy substance, apparently made up of dense, closely interwoven, membranous bands.

The pancreatic duct was pervious for about an inch only from the duodenum. The ductus choledochus and hepatic ducts were not interrupted in any part of their course. The inferior transverse portion of the duodenum was closely adherent to the morbid pancreas, and by being, as it were, drawn towards it, was so contracted as scarcely to admit the index finger. The mesenteric vessels and nerves were also involved in the scirrhous mass, which was so closely united to the subjacent parts, that it was necessary to remove them along with it from the surface of the spine underneath. The aorta was diseased in its entire course through the abdomen. There were atheromatous and ossific deposits under the lining membrane, which in some points was eroded.

The liver was rather small, of a dark grey colour, and dense, owing apparently to a thickening of its cellular tissue. The gall-bladder contained a small quantity of light yellow-coloured bile, and its coats were much thickened.

The thoracic viscera were healthy; there were old pleuritic adhesions. The heart was small and firm.

The close relations and intimate sympathy existing between the abdominal and buccal salivary glands can scarcely be questioned, and that the value of these facts, applied to the diagnosis of diseases of the pancreas, is not altogether problematical, I think, is proved by the following case, kindly communicated to me by Mr Robert L. Macdonell, which of itself does away with the reproach of a recent writer, who seems not to have known of the two cases recognised by Drs Percival and Crampton, when he says, that "dans l'état actuel de la science on peut quelquefois soupçonner une affection du pancreas, mais on ne la reconnait jamais."

II. Thomas Meighan, a labourer, aged 24, was admitted into the Meath Hospital, September 30, 1841, under the care of Dr Graves. He stated that for four years he had been subject to severe pain in the stomach, which came on at first only once a-fortnight, but then after each meal, and sometimes in the middle of the night. He was pale and emaciated; his skin sallow, features pinched; and he had much the appearance of a man labouring under organic disease. The pain alluded to was seated in the epigastrium, and came on generally after meals, and was relieved by vomiting. The abdomen was by no means prominent, no tumour could be felt, and pressure did not cause pain. His tongue was remarkably clean and moist. Pulse 72, soft, and regular. Respiration natural. He had constant constipation. On the 2d of October he had an unusually severe paroxysm of pain, followed by vomiting of nearly a basin full of dark fluid, covered with a thick scum of the same colour; this matter was inodorous, and its discharge was succeeded by a complete subsidence of the pain. He had had one such attack before admission. Meighan now went under the care of Dr Stokes. On the 6th of October he had a second attack of severe pain, followed also by vomiting of a fluid, resembling the mash for horses composed of bran and water. This also was without smell. On the 20th of October it was observed that the abdomen was more distended and prominent than before, and fluctuation was easily detected when he was placed erect. There was no change in the other symptoms. The constipation required the constant use of a combination of castor oil and croton oil. On the 21st he had another attack of vomiting of brown fluid, and again once more before death. The ascites increased, and his legs became œdematous, and the pain more severe, and more frequent; he lost flesh, and the excessive constipation continued. The abdomen, however, remained without pain on pressure, and he never had the least headach or thirst. A week before death, he was seized with severe diarrhœa, which resisted all treatment: it carried off the ascites and œdema of the legs, and left the belly soft and flaccid again, without, however, allowing any tumour to be felt.

The thoracic viscera were quite healthy. The stomach and intestines were exceedingly large and distended. The muscular tunic of the stomach was hypertrophied, and its pyloric extremity had formed so intimate an adhesion with the liver that it was necessary to remove both together. The pylorus was not contracted. On that part of the left extremity which lies in apposition with the liver, there was a well marked depression, about two inches in its long diameter, and one inch across, with edges thick, hard, and elevated. On making an incision into this, the knife passed through an exceedingly dense cartilaginous substance, which was confounded with the structure of the pancreas. The liver was healthy, also the duodenum and jejunum, but the rest of the intestinal tract was covered with small patches of closely adhering lymph, as if dashed upon it, the intervening mucous membrane being very vascular. The sub-mucous coat was thickened, and nearly of cartilaginous appearance. There was no hypertrophy of the muscular coat.

Mr Macdonnell has added,—"The cleanness and great moisture of the tongue and mouth generally, were very striking, and attracted the attention of three German physicians, at the time attending Dr Graves' Clinique, and from this circumstance, principally, they were led to pronounce the person to labour under disease of the pancreas."

Excessive pain is not a constant symptom of scirrhous pancreas,—it is generally of an obtuse kind, deep-seated, often resembling lumbago; sometimes there is none whatever, and, on account of the great emaciation, the patient has been supposed to be phthisical.

To compression of the vena porta and cava is to be ascribed the common occurrence of ascites, and anasarca, in organic affections, and inflammatory enlargements of the pancreas.

In reference to the emaciation attendant on scirrhus of the pancreas, Abercrombie says, "There is much reason to believe that diseases of the pancreas have a most important influence upon the functions of digestion and assimilation, and that this is one origin of the remarkable affection that has been called anæmia."

According to M. Mondière, "The physician who suspects an affection of the pancreas, should, above all things, pay attention to the state of the salivary glands and their secretion. Fourcroy had already observed, that in 'obstructions of the pancreas the salivary glands separated more saliva than natural. Sometimes so far from the secretion of saliva being augmented, it is, on the contrary, diminished.'"

The high authority of Dr Copland lends weight to the opinion, which attributes to augmented pancreatic secretion a certain form of diarrhœa, (the D. pituitosa of Sauvages), and that in connection with the salivary glands. He says, "In some forms of this, occurring during difficult dentition, or after the use of mercurials, or upon the suppression of ptyalism, the stools have consisted of a thin, ropy mucus, of a translucent hue, and have seemed to be augmented pancreatic secretion."

Diarrhœa, alternating with salivation, is a consequence of inflammatory derangements of the pancreas; in scirrhus of the gland, on the contrary, continued constipation is almost invariably present, and, according to the authority already quoted, is attended by salivation, "which (as it is stated), coming on at a more or less advanced stage of the disease, is a symptom almost constant." Salivation and constipation are very frequent during pregnancy. In suppression of the lochia, and in hysteria, salivation has also been observed, but as Dewees remarks, the sympathy between the salivary glands and the impregnated uterus is, perhaps, as remarkable as any that takes place, and pregnancy has been considered an occasional predisposing cause of inflammation of the pancreas. Certain affections of the testicles are also said to give rise to suppuration in the pancreas. The sympathy between the abdominal and buccal glands will assist us in forming a more accurate diagnosis of diseases of the pancreas, when all other symptoms are confessedly so obscure and ambiguous.—Abridged from the *Dublin Journal of Medical Science* for May 1844.

Remarkable Case of Mental Alienation assuming a Tertian Type.

A female aged 46 had an attack of encephalitis in July 1842, following mental distress from the loss of a daughter. In 17 days she recovered, but two days after, symptoms of mental alienation amounting to mania presented themselves. The whole of that day, (the 19th) was passed in this state; on the 20th she appeared well; on the 21st the maniacal accession returned; on the 22d the mind was again sound, and the day after there was a fresh maniacal attack, and thus matters have been going on for about a year. When questioned upon her good day, the patient states that she feels herself quite well, and has no need of medical advice. She does not remember the attack of the preceding day, nor does she remember the loss of her daughter, or the cerebral attack which followed that event. On all other matters she has entire possession of her faculties, and answers questions correctly, but pertinaciously refuses medicine. There is no emaciation, and not even the most practised physician can detect in her countenance any traces of her mental disorder. None of her functions are disordered, and on her day of calm she goes and provides for her family, and attends to her devotions with perfect propriety. Cases of this description are extremely rare; the only one which the author knows of, is a case recorded by Dr Johnson in the *Edinburgh* (*London?*) *Medico-Chirurgical Review*. But his patient was monomaniacal, or at least subject one day to hallucinations, and one day not—and ultimately committed suicide.—*Bulletino di Bologna*, quoted in *Gazetta Medica di Milano*, March 1844.

EPIDEMIC OF PSEUDO-SYPHILIS. BY M. ALIES.

In a small commune, with a population of 700, symptoms very similar to those of syphilis occurred during 1840 and 1841, in about eighty individuals. The chief and most uniform appearances were numerous tubercles developed around the anus and genitals. Public report ascribed its origin to an individual who had got the disease from infected women, and on his return home had conveyed it to his family, whence it spread through the village. The author has some hesitation in pronouncing upon the character of these symptoms, although their appearance and situation resemble those of the specific disease, and they were found to yield readily to mercury. But the order of appearance and succession of the symptoms, as well as of their termination, leave considerable doubt on his mind. Very many of the patients denied being exposed to infection, and secondary symptoms were completely wanting.—*Journ. de Lyon*, quoted in *Gaz. Méd. de Paris*, March 1844.

WARTY VEGETATIONS CAUSED BY MASTURBATION. BY PROFESSOR RIGNOLI of Pisa.

Dr Rignoli thinks that he has observed in women who were addicted to this disgusting habit, that the finger used for that purpose becomes covered with warty vegetations; indeed, to such an extent, that it sometimes forms a tumour, so large as to require excision, and which has been mistaken for a polypus or a cancer. In some of these cases, warts will likewise be found on the vulva, similar in character to those which are developed in the same situation in cows which have been recently covered. Burdach, who noticed the same facts, attributes the phenomena to the action of the plastic juices secreted during excitement.—*Italian Journal*, as quoted in *N. York Journal of Medicine*, May 1844.

CONDYLOMA, A PRIMARY FORM OF VENEREAL DISEASE IDENTICAL WITH SIBBENS.

BY DAVID SKAE, Surgeon to the Lock Hospital of Edinburgh.

The flat and whitish elevations of the skin occurring on the verge of the anus, on the perineum, labia, or scrotum, and occasionally on the thighs, and in the axillæ, (known under the names of *condylomata*, *tubercules muqueuses*), are in this country generally ascribed to one of two causes. By some they are attributed to inattention to cleanliness in persons labouring under chronic discharges from the genital organs. By others, they are believed to be identical with the scaly eruption which follows the true syphilitic sore, modified in its appearance by the situation where it occurs. "When the eruption," says Mr Carmichael, speaking of the scaly syphilitic eruption, "affects a skin which is opposed by another skin, as between the nates, or between the scrotum and thigh, or under the arms, or between the thighs, it is not scaly; but the skin becomes elevated into a moist, soft, flat, or somewhat convex surface, which discharges a whitish matter. These are the appearances, which I believe, in authors are termed condylomata, fici, cristæ, mariscæ, &c.—denominations applied according to their figure, or perhaps the fancy of the practitioner." By M. Ricord and other continental writers condylomata are arranged with the secondary symptoms of syphilis. In 1835, the late Dr Wallace of Dublin (in lectures published in *The Lancet*) announced some new views regarding the nature of these excrescences, or to speak more correctly, of this peculiar eruption. He was the first to point out that it was almost invariably associated with a certain group of symptoms of a peculiar and definite character. Of this group, the most remarkable pointed out by him was a peculiar morbid state of the mucous surface of the lips, cheeks, palatine arches, or tonsils. This morbid state consisted in peculiar white elevated patches, having the appearance of parts touched with nitrate of silver, or coated with milk; these patches are more or less elevated, irregular in form, and presenting occasionally superficial ulcerations on their surface. Dr Wallace further pointed out that these spots were associated with, or rather preceded in general by an exanthematous eruption of a mottled appearance, and of a red or brownish colour, sometimes preceded by vesication or scaliness, but never by pustules; sometimes elevated and approaching in appearance, in various parts of the skin, to the mucous tubercles or condylomata commonly observed on the genital organs, and producing in the folds of the skin (as between the fingers, &c.) those linear ulcerations called rhagades; under the nails, onyxis; in the head, &c., falling of the hair. From these and other facts, he inferred that condylomata, and the peculiar patches on the mucous membrane of the mouth and fauces, were parts of the same exanthema, modified in appearance by the tissue where they appeared, and constituting a group of "constitutional" to use his own words, "or secondary venereal symptoms, of which condylomata, rhagades, onyxis, falling of the hair, and a peculiar state of disease of the mucous membrane of the mouth, are the most remarkable." To this group of symptoms he gave the name of "exanthematic primary syphilis." He further asserted, that it could be propagated by inoculation and by simple contagion, and that it did not differ in its origin from syphilis, but resulted from a peculiar modification of the syphilitic virus, from its having passed through the system."

["The exanthematous group of venereal eruptions," he says, "are produced by *secondary matter*, or by matter originally derived from the common pustular primary sore, and *subsequently* modified by passing through the system."[1]]

I do not say that it is impossible to reproduce condyloma by inoculation from the matter of *a condyloma*, but that there is no evidence that condyloma can be produced by inoculation with the matter derived from an undoubted *secondary syphilitic* ulcer or eruption. This conclusion, while it appears to overturn the ingenious theory of Dr Wallace, leads, if the facts stated by him regarding the symptoms of this affection are correct, to the adoption of another view of the subject now becoming prevalent in some parts of the Continent, namely, that condyloma is a *primary* form of venereal disease, distinct from either gonorrhœa or syphilis, but equally definite and specific in its character with the latter affection.

The following is the result of my observations and experiments, extending over a period of six months, viz. from 2d November 1843 to 2d May 1844.

The total number of patients admitted into the hospital during that period was 121, and the average number in the hospital was about 28, the whole of them being females. Of that number 36 were affected with condyloma, being about one in 3½.

One of the symptoms which struck me as most remarkable, and present nearly in all the cases, was a peculiar hoarseness or huskiness of the voice. This symptom was much more marked in some than in others, but could be distinguished I think in all; even in those in whom no morbid change was visible in the mouth, fauces, or pharynx.

The appearances presented on the genital organs and parts in the immediate neighbourhood, were moist, indurated, and somewhat elevated patches, of a whitish and occasionally yellowish white colour. Most of these patches were irregular in form, but a considerable number of them, especially of those on the labia and thighs, were rounded and prominent. They were situated most frequently along the opposite margins of the labia majora, on the perineum, and verge of the anus; less frequently on the outer surfaces of the labia and adjacent surface of the thighs, and on opposite and corresponding surfaces of the thighs, two or three inches below the labia. Many of them were the seats of superficial ulceration, or more frequently of vesication, the surface of the condyloma discharging a thin muco-purulent secretion. Those which were situated on the opposite sides of the nates were less elevated, and presented a tendency to ulcerate in fissures as they approached the verge of the anus.

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[1] Lancet, 1835–36, vol. ii. p. 198.

In two instances, three or four considerable condylomatous patches, white and elevated, although flat, were seen extending over the inner surface of the vagina as high as the cervix uteri.

In nearly all the patients, the mouth or fauces presented the appearances described by Dr Wallace as characteristic of this affection. These consisted in white and slightly elevated patches on the inner surface of the lips or angles of the mouth or cheeks; more frequently on the tonsils or arch of the palate; and not unfrequently on the tongue, sometimes on its edges, and sometimes on the dorsal surface near its root. So constant was the appearance of these milk-like patches on one or other of these parts, that I was in the habit, latterly, of examining the mouth and throat first, after noticing the husky voice of the patient, and almost invariably was able to detect some patch which enabled me to prognosticate that she was affected with condyloma of the genital organs before an examination was made. And in cases of condylomata of the genital organs, where the mouth or throat did not present these appearances at the period of admission, they were not unfrequently apparent soon after or during the progress of the case. To this circumstance is to be attributed the fact to be immediately noticed, that in the journal of the cases, rather less than one-half of the patients are noted as having had the throat affected.

In one or two instances only, and those were cases seen at an early stage of the affection, was the cutaneous eruption, described by Dr Wallace as a concomitant of the disease, observed. In those cases it presented the red-brown stain, the irregular form, and the tendency to scale off, or rather to desquamate, which seem to have been regarded by him as characteristic.

In only one instance did there exist a distinct condyloma in parts of the body other than those enumerated. This occurred in the case of a patient who presented a very large condylomatous patch in the left axilla.

Of the 36 cases, one or two were apparently complicated with syphilitic sores, as I was led to believe by the production of a pustule after inoculation, which had the appearance of those produced by inoculation from the true syphilitic chancre; others were complicated with gonorrhœa, as was proved by the history of its invasion and the appearances presented; and others were complicated with a leucorrhœal discharge, as we ascertained by the use of the speculum.

Of the whole cases, 20 were accompanied with gonorrhœal or leucorrhœal discharges from the vagina. Of the remaining 16, 5 presented ulcers seated on the surface of the condylomata, of which one or two were suspected, from the result of the inoculation, the pustule being destroyed with caustic on its appearance, to be syphilitic. The remaining 11 presented neither gonorrhœal nor leucorrhœal discharges, nor ulcers, but were simple cases of condyloma. Of these 11, three were *undoubtedly* first affections, the girls not having had any previous venereal complaint. In five of them at least, I ascertained with as much certainty as the evidence of such patients admits of, that the disease *commenced* with the formation of the condylomatous patches or tubercles, and was not preceded by any sores or discharge, either mucous or purulent.

In 16 out of the 36 the throat is stated in the journal to have presented the characteristic appearance; but in nearly all the remaining cases, the lips, mouth, or tongue, presented the condylomatous patches. These were most frequently seated in the angle formed by the commissure of the lips, occasionally on the inner surface of the lip or cheek. Those seated in the angles of the mouth appeared slightly excavated, and would in all probability have been described as ulcers by most observers, [?] but they all presented the characteristic white or milk-like coating on the surface.

One patient was affected with iritis during the progress of the cure; two with inflammation of the lymphatic glands in the groin. Besides the cases referred to, where the eruption described by Dr Wallace was present, one was affected with clustered lichen, one with rupia, and one with psoriasis venerea.

In 23 of the cases the duration of the disease, previous to admission into the hospital, was ascertained, and was as follows:—

Duration.		Cases.	Duration		Cases.
2	weeks in	3	2	months in	7
3	...	3	3	...	2
4	...	4	4	...	1
6	...	4	5	...	2,

and in one case eight months.

The longer duration of the disease, previous to admission, did not apparently, *cæteris paribus*, render the cases materially worse than many which were of shorter duration, nor make the cure more tedious. Of the two cases of five months' duration, one was cured in fourteen, and the other in nine days. Two of the cases of two months' duration were cured in fourteen days, and one of the cases of three months' duration in seven days.

One or two of the patients were discharged for misconduct, some at their own request, and some remained under treatment at the date at which the report terminates; but of the remaining cases, 27 in number, the average duration, *i. e.* the term of treatment until they were discharged cured, was twenty-two days. Of these, 2 were in the hospital above two months, and 8 between thirty and forty-five days, and in all of these cases the patients laboured under chronic discharges from the uterus or vagina, cutaneous eruptions, or ulceration of the throat. The average duration of the treatment in cases not affected with these complications was twelve days.

My treatment consisted chiefly in the application of stimulants to the condylomata; the use of astringent injections and cold washing, for the cure of the vaginal and uterine discharges; and in cases of the latter kind, the internal administration of tincture of cantharides. In several cases, when there existed cutaneous eruptions, the iodide of potassium was given. In no instance was any mercury administered, except in the case of the woman affected with iritis.

The local application which I have found most advantageous, is the sulphate of copper. The condylomata were rubbed pretty freely with a crystal of this salt, moistened with water, every second day, and in some cases daily; and a lotion of it, containing two or three grains in each ounce of water, was kept applied by the patient. Under this treatment the condylomatous excrescences disappeared with remarkable rapidity. In the cases where there were ulcers suspected to be syphilitic, these were touched occasionally with the nitrate of silver. The patches in the mouth were repeatedly touched with the sulphate of copper or nitrate of silver, more frequently with the former, and disappeared with equal rapidity with those on the labia and perineum.

Although the treatment in the Lock Hospital has been thus almost exclusively local in such cases, for six or seven years, I have not remarked any tendency in the disease to recur after having been cured by this simple method of treatment; nor have the patients, although many of them have been under treatment for subsequent affections, presented any secondary symptoms, except occasionally some of the eruptions mentioned in the previous description. The facility with which the cases under my care were cured, I attribute, in a good measure, not only to the effect of the remedies employed, but to the altered habits and circumstances of the patients. The regularity of the diet, the plain and wholesome food, the suspension of the universal habit of drinking, the attention to cleanliness, the rest enjoyed, and removal from night air, constant exposure, excitement, and fatigue, must in themselves, contrasted with the usual habits of prostitutes, tend to produce a marked effect on the diseases under which they may labour.

The observations recorded in the preceding pages have led me to the conclusion that this affection is a *primary form of venereal disease*, and that it is *identical with sibbens.*

With respect to the first opinion, I must admit that it is extremely difficult to obtain complete satisfaction, in the class of patients among whom I have studied this affection, as to the absence of any previous disease, gonorrhœal or syphilitic. Of the 11 cases which I have mentioned as having neither ulcers, gonorrhœa, nor leucorrhœa, after repeated examination and cross-questioning, I was only able to satisfy myself that the disease had made its first appearance in the form of a condylomatous tubercle, without any previous ulcer or discharge, in 5 of the patients. In 3 of the cases, the patients were undoubtedly labouring under a venereal affection for the first time. One of them, indeed, was under ten years of age. She presented a condyloma on the right labium, the surface of which was ulcerated, or rather vesicated, another on the verge of the anus, several patches on the tonsils, one on the lips, some of considerable size on the tongue. The disease was contracted by sexual intercourse. A companion of this girl, under eleven years of age, was similarly affected, although to a much greater extent, and in her the disease was contracted from the same source.

I was at one time strongly inclined to believe with Dr Hibbert, that this disease was "the engendered product of rank uncleanliness," for it is certainly most frequently met with in patients of the lowest class, and is generally accompanied with profuse and neglected discharges. But the number of cases in which I have seen it where there was no such discharge, have satisfied me that this is not the sole cause, although it may be admitted that under its influence the disease is fostered and developed. My opinion on this point exactly coincides with that of Dr Wallace. "The want of habits of cleanliness," he observes, "has a great influence in determining the formation of fungi, of rhagades, and perhaps of onyxis. In fact, these symptoms are often produced by the dirty habits of patients, when the opposite habits would have prevented them. I do not, however, say that they never occur except in such habits, for I have known very cleanly persons to have the condylomatous form of disease."

The invariable affection of the mouth and throat at some period of the disease—for I am satisfied it is invariable—with the peculiar and perfectly characteristic eruption, or condylomatous patches, in itself is sufficient to point out that this disease is specific in its origin, and essentially different from any of the secondary symptoms which are known to result from the syphilitic virus, or from any thing which can be produced by filth and gonorrhœa.

To satisfy myself, if possible, of the specific character and contagious nature of this disease, I inoculated, in every one of the cases referred to, from the matter, which can in general be scraped from the surface of some of the condylomata, or from the ulcers which they frequently present. The result of these experiments has been different from either that of Dr Wallace or M. Ricord, between whose results there also exists a remarkable discrepancy.

Dr Wallace states, that in "two or three weeks after" [inoculation] "the seat of the inoculation swelled and became somewhat red and painful. It then desquamated, or appeared scaly. The tumidness and scaliness increased. The scales then gradually became scabs or crusts, and the spot as gradually acquired a fungoid elevation. In a few instances, the scaly tubercle, soon after its appearance, formed an ulcer. On other occasions, parts of the fungous elevation ulcerated, and then its surface appeared depressed, or in wells." He adds, that the secondary symptoms followed, the skin presenting the rubeoloid, or the scaly, or the tuberculated eruption, and the mouth the superficial form of the disease.

M. Ricord states, that in 221 inoculations from mucous tubercles or condylomata, no effects were produced in any case.

On comparing the results of M. Ricord's inoculations with those of Dr Wallace, I was at first led to believe that the discrepancy was probably to be explained by the supposition that M. Ricord was not aware of Dr Wallace's experiments, or did not advert to the circumstance stated by him, that the inoculation did not take effect until two or three weeks afterwards, and that before that period he might have ceased to watch for any effects. The result of my own observations, however, is at variance both with this explanation and with the experience of Dr Wallace; for in the only cases in which my inoculations succeeded, the effect took place within one or two days.

Of the thirty-six cases referred to in the preceding part of this paper, inoculation succeeded in only four cases. In all of these, the first appearance presented in the seat of the inoculation was a pustule on the second or third day, as in inoculating from a chancre. Believing that this had been the case in the first two or three experiments, I destroyed the pustule with nitrate of silver. In the fourth case, I allowed the two pustules which formed to run their natural course; a scab formed, which appeared to be seated on sores depressed below the level of the adjoining surface, but without the elevated or hardened edges, or the defined circular form of chancre. They continued increasing in size, preserving the same appearance and covering, until they met each other and coalesced. On the fourteenth day after inoculation the crusts became detached, and a fungoid excrescence, having all the appearance of a condyloma, shot up from the sore. This was destroyed. In another case, not included amongst the thirty-six referred to, inoculation produced the same effects as those last described; and the sore now presents a small fungoid elevation of the skin, somewhat resembling a condyloma. In addition to the results derived from direct inoculation, I may add, that I have had frequent occasion to remark the existence of a condylomatous tubercle on opposite surfaces of the thighs, at points exactly corresponding, and brought in contact when the thighs were approximated. These results are as yet imperfect and unsatisfactory, but so far as they go, they are confirmatory of the observations of Dr Wallace, in as far as regards the appearances presented, although they are at variance with his results, both as regards the pustular form which preceded the scab and tubercle, and the period at which the inoculation took effect.

That inoculation took effect in so few of the cases experimented upon by me, may be explained, perhaps, partly by the fact that I selected a part of the thigh where condylomata are very seldom produced in the natural course of the disease, and partly, it may be, by my not having had recourse to any means to prevent the patient washing the inoculation immediately after it was done, to prevent its taking effect. Dr Wallace states that his inoculations succeeded much less frequently than inoculations from chancres. The inference to be deduced from the experiments referred to, more particularly those of Dr Wallace, appears to me to afford strong corroborative evidence of the opinion which I have formed, that this affection is specific, and one of the primary forms of venereal disease.

The identity of this disease with the affection called *sibbens*, which at one time ravaged this country to a great extent, and is now generally believed to be nearly extinct, or confined to some limited localities in the west and north of Scotland, is, I think, very clearly made out by a reference to the descriptions of it which we possess.

[The writings of Drs Gilchrist, Adams, and others, are cited in support of this statement.]

The most recent account of sibbens, as it prevails in Ayrshire, Galloway, and Dumfries-shire, is contained in a very interesting paper by Mr Wills of Cumnock, published in the MONTHLY JOURNAL for April last. On perusing it, I was gratified to find all my preconceived opinions, regarding the identity of the *condyloma*, daily met with here, with the *sibbens* of the west, confirmed and verified. The appearance of the tubercles, or condylomata, on "the tongue, cheeks, angles of the mouth, anus, groins, and genital organs," and of the cutaneous eruption or secondary symptoms, given by Mr Wills, is exactly applicable to the cases daily seen in the Lock Hospital of this place. While I differ from him regarding the necessity for the use of mercury in the cure of this disease, and regarding the mode in which the affection of the mouth is produced, his views entirely coincide with mine on most of the other points of interest. "Between sibbens," he says, "and the venereal condyloma, there does not appear any difference; and I will be much astonished indeed if, on farther inquiry, the latter is not found to be often communicated by the mouth. Whether sibbens may have wandered from our mountains to the cities, or venereal condyloma from towns to us, is not for me to decide."

I think myself warranted in deducing the following conclusions as highly probable, if not completely substantiated :—

1. That condyloma is a primary form of venereal disease—specific in its characters and its origin, and distinct from gonorrhœa or syphilis.
2. That it is identical with the disease described under the name of sibbens or sivvens.
3. That it is communicable by contagion and inoculation.
4. That the difficulty of producing it by direct inoculation, and the similarity of the affection of the mouth in cases produced by sexual intercourse with that in which it has been supposed to be produced by contact of the lips, &c., render it probable that the affection of the mouth is always a constitutional symptom resulting from a venereal origin.
5. That it is curable without the use of mercury.—Abridged from the *Northern Journal of Medicine* for April 1844.

OSSIFICATION AND OBLITERATION OF THE VENA PORTA. BY M. GINTRAC.

The subject of this observation came into hospital labouring under ascites, with dyspnœa, palpitations, and abnormal sounds of the heart, and died there. On dissection the heart was found voluminous,—the lining membrane of the aorta reddened, with cartilaginous deposits. The liver was pale, small, and its surface irregular. The gall-bladder contained a moderate quantity of thin yellow fluid. The gall-ducts were natural. The vena porta, above the point of junction of the splenic and superior mesenteric veins, was filled by an old and pretty firm clot adhering to the lining membrane, and of a dark colour. At the same point, the coats of the vein presented several osseous laminæ of an angular form. They were situated between the inner and middle coats, slightly adherent. All the veins of the abdomen communicating with this vessel were gorged with blood and varicose. M. Gintrac thinks that the ascites was the consequence of the obliteration and ossification of the vena porta, and remarks, that although this obliteration was complete, yet the secretion of bile was not suspended, only altered, while the nutrition of the liver had evidently been arrested. Consequently the blood of the vena porta seems to have a share in the nutrition of the liver, but not to be exclusively indispensable to the secretion of bile.—*Journ. de Méd. de Bourdeaux*, quoted in *Gazette Médicale de Paris*, March 1844.

PARTIAL INFLAMMATION OF THE HEART GIVING RISE TO AN ABSCESS IN THE SUBSTANCE OF THE LEFT VENTRICLE BURSTING AT THE SURFACE OF THE HEART. BY M. GINTRAC.

The patient, aged 68, had been subject for some months to palpitations. At length, after a fit of passion, these became very violent, with much dyspnœa and œdema of the lower limbs, for which symptoms he came into hospital. On admission the respiration was short and noisy; there was orthopnœa preventing him from sleeping, or maintaining the recumbent posture; cough, bloody expectoration, and before long, expectoration of pure blood. Action of heart strong and irregular, and heard over a large surface of the chest,—but the loud sonorous *râles* rendered it impossible to determine whether any *bruit* was present. On percussion there was found dullness of the upper and right portion of the chest. The pulse was small, the surface was cold, and the countenance had an expression of great anxiety. He died on the 9th day after admission. On dissection there was found an infiltration of blood into the middle lobe of the right lung, which however floated on being put into water. In the pericardium were from 12 to 15 pounds of a thick reddish and yellow fluid, consisting of pus and bloody serum. The heart, of large size, was covered anteriorly, and especially towards the left, with a thick membraniform coating of pus deposited in distinct layers. About the middle of the surface of the left ventricle a small ovoid opening was observed in the substance of the heart. The right cavities as well as the left auricle presented nothing abnormal. The left ventricle contained several clots of very dark blood,—the lower part of the ventricle was separated from the rest by a thick unorganized septum, and contained a thick purulent fluid the colour of the lees of wine. The muscular fibres in this part were pale and softened, and soaked with pus, which seemed to have passed between them from a fistulous opening in the anterior wall near the septum. This opening was found to communicate with that on the surface of the heart already mentioned.—*Journ. de Méd. de Bourdeaux*, quoted in *Gazette Médicale de Paris*, March 2, 1844.

RUPTURE OF THE VENA CAVA INFERIOR—CIRCUMSCRIBED BLOODY EFFUSION,—SOUND ANALOGOUS TO THE PLACENTAL BRUIT. BY M. NETTER.

A man had a fall from the height of one story. After going on favourably for about seven days, febrile action occurred, and on examination the following was found to be the state of the chest. Anteriorly, the respiratory murmur was heard throughout. On applying the ear to the precordial region it was easy to detect a deep bellows sound, distinct from the sounds of the heart, but heard simultaneously with them. Posteriorly, a very intense bellows sound was heard quite superficial and accompanying the arterial pulsations. It resembled greatly that heard over the placenta, from which it differed only in being more intense. It was heard right and left, above and below, over the whole posterior region of the chest, and obscured and finally masked the respiratory sounds. The sound was propagated over the whole posterior part of the trunk, down to the sacrum, and even to the thigh. On inspection after death, bloody effusion was discovered in different portions of the peritoneum. On removing the abdominal viscera, there was perceived between the two kidneys and to the left of the vertebral column, a bluish fluctuating tumour of a prolonged triangular form. Towards the right it was covered by the aorta, which was thus detached from the vertebral column for four or five centimetres of its course. A little more to the right it was in contact with the posterior aspect of the vena cava, with which there was a direct communication immediately above the origin of the common iliac veins. The tumour was filled with venous blood and pretty consistent coagula. The common iliac veins, especially the right, were dilated, and contained consistent clots. The author ascribes the bellows sound to the displacement and compression of the aorta by the effused blood; and the transmission of the sound to the upper part of the chest, he considers due to the vertebral column, a solid body and good conductor of sound.—*Gazette de Strasbourg*, quoted in *Gazette Médicale de Paris*, March 2, 1844.

RUPTURE OF THE AORTA AT ITS JUNCTION WITH THE HEART. BY W. RYAN, ESQ.

In consequence of an order from our warden and coroner, Baron D. Webster, Esq., I made a post-mortem examination of the body of Elizabeth Brooks, aged 40, who died suddenly. Deceased had been left in the house, peeling potatoes, and on her sister's return after half an hour she was found dead, having fallen forward. There was excellent muscular development. A slight contusion existed on the left temple, caused apparently by falling forward powerlessly. She had long complained, and been under much ineffectual medical treatment for intense "pain in the stomach," from which she suffered much. She also had giddiness, and sometimes difficulty of breathing. The viscera of the abdomen were healthy. The scalp, coverings and substance of the brain were congested; about three drachms of serum were found in the left ventricle. On removing the sternum adhesions were found. The lungs did not collapse, were easily broken down: and now the cause of death was quite apparent, the pericardium being completely filled with blood in a fluid state, excepting about a three-drachm clot at the bottom. Having removed seven or eight ounces, a rupture was found at the junction of the aorta with the ventricle towards the right side, and a thin layer of coagulated blood between the internal and external serous membranes. The rupture was somewhat oblique, and from the inside I was enabled to pass the handle of the scalpel into the pericardium. There was considerable hypertrophy of the heart, which was not much loaded with fat. No ossific deposits nor cause of obstruction to the circulation were found in the aorta.—*Lancet*, February 17, 1844.

Arsenic in Ascites. By Dr Debavay.

It appears that M. Trousseau has used arsenic with success in several cases of ascites complicated with mesenteric disease. The following is a similar case which occurred to M. Debavay. A patient, aged 38, consulted him for dropsy of 15 months' standing. It appeared to have originated in peritonitis following child-birth. Her constitution and general health were good; and on examination, no organic complication could be detected. Various remedies having been used without permanent benefit, it was resolved to try the arsenic, and a pill was ordered to be taken night and morning containing one-twentieth of a grain of that substance. The medicine had to be cautiously given on one or two occasions, in consequence of some degree of colic and diarrhœa coming on, accidents which the author conceives would have been prevented by administrating the arsenic in a state of great dilution in water. At the end of six weeks the abdomen was less tense, and sensibly diminished in volume; the urine was at the same time increased in quantity. Uniform compression of the abdomen was now employed along with the arsenic, and after six months' treatment, there remained scarcely any fluid in the peritoneal cavity; the menstruation, which had been suppressed, and the other functions, became again natural, and the patient regained flesh, and again enjoyed perfect health.—*Gazette Médicale de Paris*, March 9, 1844.

The Sanability of Phthisis.—The Influence of Malaria.

The sanability of pulmonary consumption is one of those subjects which must ever command the regard of every philanthropist, and still more of every physician.

This inquiry has gradually been forcing itself upon the attention of the profession since the days of Laennec. Since his time morbid anatomy has done much for its elucidation, although it is to pathology chiefly that we turn for a thorough explication of the truth. Another interesting source of information, however, is to be found in the geographical distribution of the complaint, and its statistics in regions presenting different medical constitutions. It is to this last source that M. de Crozant has directed attention in an interesting memoir now before us, in the May number of the *Journal de Médecine*.

The part of the country which has fallen under M. de Crozant's examination lies in the department of Nevers, more especially its northern portion, the district around Cosne, and the canton of Donzy, situate on the left bank of the Loire, where the Noain joins the mighty stream, about 100 miles south of Paris, and thirty to the north of Nevers.

The Noain, with a somewhat semicircular course, from its origin at Entrains to the town of Cosne, where it joins the Loire, makes a circuit of eight or ten leagues. But ill-confined within its banks, it overflows twice or thrice a-year, and for leagues around converts the whole country into a vast marsh; which is moreover interspersed with brushwood, and skirted with forests. Hence it is scarcely ever thoroughly dried, remains moist, and makes the villages from Entrains to Donzy, and especially those of Couloutre and Perroy, the most unhealthy of the whole department. The lower portion of the river has a greater fall; and the marshes almost disappear where it joins the Loire. The soil, too, in this locality is chalky and dry, and the forests are more scanty and distant. The communes of Sully and Saint Quentin are situate here, and are much more healthy than those named above.

The effects of the malaria in these more marshy districts are most melancholy. Intermittents prevail throughout the year,—at particular seasons are peculiarly rife, and, in fact, are quite epidemic. Population here cannot maintain itself; and the rate of mortality far exceeds that of reproduction. Old age is unknown; and most of the labourers are strangers attracted by the high rate of wages. The inhabitants generally, both young and old, are pale, cachectic, dropsical, and become old before their time; their spleens are hypertrophied, their livers engorged; and scurvy and struma add their traits to the other squalid features of the picture. They are dull and indolent; and misery, the inevitable result of morbid health, attends them to the tomb. It is fever alone which produces all this languor and wasting, and scarcely another disease shows itself among them.

It is a fact that phthisis is here unknown. M. de Crozant has corresponded with Dr Lizon, a skilful and well-informed physician, who is familiar with all the details of practice in the district, and who writes,—"Pulmonary consumption is exceedingly rare in our communes, (the canton of Donzy) and during the twenty years I have practised in the country, I have not seen a single case in the commune of Couloutre." Throughout the extensive beat of this physician, the best employed in the district, and for the long period he has practised, he has only seen seven cases of phthisis, most of these having something peculiar in their origin and history, and two of them having been cured.

A few details will prove interesting. Of the seven cases, three occurred in Donzy itself, the chief town of the canton, containing between two and three thousand inhabitants. Of these three cases, one was a wool-carder; and his trade could not but influence the development of the complaint. The two others stood to him in the relationships of uncle and nephew; and these were the only invalids in the family. The other four belonged to the commune of Sully, which is much less affected by the malaria. Two of these were cured; and both resided on the banks of the stream;—the one was a miller. The other two, who died, resided in the most healthy part of the commune. To these seven cases M. de C. has added two which fell under his own observation, which was very extensive in the district;—both of these cases apparently were cured. He resided at Sully, saw a great many individuals labouring under intermittent fever, minutely examined the state of the lungs of all who applied to him for advice, and never, except in the cases specified, could discover the slightest indication of tubercular degeneration.

In descending the Noain, as already stated, the peculiar insalubrious character of the locality disappears; and on reaching its *embouchure* in the Loire, at Cosne, the antagonism between intermittent and phthisis is much less discernible. Here phthisis frequently manifests itself, commingling with the fever, a fact which has been confirmed by Dr Gambon, the chief physician of Cosne.

It is, therefore, only in the centre of the marshy district that the agency of the malaria should be investigated. In the commune of Couloutre, whose population amounts to 696 souls, Dr Lizon, during the twenty years of his unremitting practice, had not seen a single case of phthisis. The commune of Perroy, which is contiguous to the preceding, and equally sickly, possesses the same immunity. It was after passing Donzy, following the course of the Noain, that he saw the seven cases already specified; and these all occurred in the same commune of Sully, with a population of 1500, a portion of whose surface forms quite a contrast to the swampy soil of the other; and, finally, upon arriving at Cosne, this complaint is sufficiently rife, and its exciting causes prevail over the influence of the malaria, which is now greatly weakened, and gradually disappears.

The four cases of the cure of phthisis, which have been observed out of the nine which manifested themselves in the environs of the marshy district, all occurred on the swampy margins of the Noain, in the commune of Sully-Latour, in circumstances which were far from promising such a happy result. As exhibiting the features of these cases, M. Crozant furnishes the particulars of all the four, and they appear in every way to vindicate their claim to be—we had almost said—desperate cases of this most fatal disorder. In illustration, we subjoin one of them.

"*Obs.* 4. In May 1841 I was requested to visit a young lad, a miller by trade, aged 18, who was declared by his physician to be labouring under a chest complaint; and to such a degree, that he could not long survive. He was at death's door; when I saw him, and it was easy to perceive that the diagnosis could not be doubtful.

His mother was of a feeble constitution, and subject to cough; the father was healthy; he has since died, but of what disease I am ignorant. The lad himself, like all the children of the village of Sully, was emaciated and diminutive; and hardly appeared to have attained the age of 13. He had always been subject to cough, and was of a sickly habit, but this was attributed to the fever, and he was treated accordingly. At the same period of the preceding year he was confined to bed for a month by the same disease. From that time he never regained strength; and both during its course, and frequently since, he has had frequent severe attacks of hœmoptysis, with diarrhœa, and night sweats;—a troublesome cough, with abundant expectoration, never left him. From time to time he had attacks of fever towards evening, continued want of appetite, and great emaciation. Such are the symptoms which most attracted the attention of his parents.

He had been confined to bed for three weeks previous to my visit. When I first saw him he was extremely emaciated; but this was easily accounted for by the continued and copious diarrhœa. His strength wascompletely exhausted; his voice was feeble and husky. He had want of appetite, bitter taste in mouth, but no pain in the bowels. The cough was frequent, occurring in fits; the expectoration purulent and solid, floating in a considerable quantity of frothy mucus. There was some crepitation under the left clavicle; posteriorly the sound was dull; but the respiration clear without *râle;* over the rest of the lung the respiration was noisy. Under the right clavicle there was strong cavernous respiration, with gurgling, and a very dull sound: the rest of the lung appeared to be healthy. I saw this patient five times during the two months I remained at Sully-Latour. I merely prescribed some trifling remedies for him, with the exception of a vomit, which I ordered, as he swallowed his expectoration from sheerweakness. I noticed no change on him during this period; and I left him in what I considered a desperate state, truly astonished that he should have survived so long.

On my visit the following year, I was informed that my patient was on foot; that he had got rid both of his cough and expectoration, had a good appetite, and was again working in the mill. I was told he had been recommended to take *l'herbe à la forçure* (the periwinkle, I believe) that he had thriven under its use, and regained strength; the sweating and diarrhœa gradually diminished, and at last completely disappeared; he still continued to inhabit his damp abode, but the fever had not re-appeared for the last eight or ten months. I congratulated the mother on the recovery of her son, persuaded, at that time, that she had converted a merely temporary amelioration into a complete cure. I did not wish to destroy the maternal delusion, and I did not see the lad himself.

Last summer (1843) I did not fail, on my arrival, to enquire after the health of this lad. I was told he still continued well; and that he had gone to another mill. I hastened to see him. It was difficult to recognise in the strong and vigorous lad, now before me, the diminutive-looking boy I had attended three years previously. He bore no external trace of the miserable state I had then seen him in. I found nothing on auscultation. The anterior and superior part of the right side of the chest was perhaps a little less prominent than that of the opposite side; and the respiratory murmur was somewhat fainter there than over the other parts of the thorax. He still continued the trade of a miller; travelled about the country collecting loads for the mill; carried sacks of grain on his back; was constantly exposed to all the vicissitudes of the weather, and enjoyed the most perfect health.

We close this notice with M. C.'s concluding remarks. "To what are we to attribute these cures? For myself, I cannot say. Active treatment there was none. As little was there any peculiar hygienic care or influence. All that I can discover is, that the patients were affected within a marshy and sickly district, on the banks of the river, in the midst of low and swampy grounds."—Abridged from the *Journal de Médecine,* May 1844.

SURGERY.

ON PARTIAL EXCISION OF THE OPAQUE CORNEA AS A CURE FOR BLINDNESS.

BY M. MALGAIGNE.

M. Malgaigne in the April number of *Le Journal de Chirurgie*, has published a long and learned paper on the subject here announced. It is preliminary to another, wherein he intends to embody the result of his recent experiments and observations; and he seems determined that, on the present occasion, nothing recorded in the history of the science should escape his reflection and criticism. Waiting the result of these original investigations, we shall supply a short analysis of all that appears important in the present communication.

The reading of M. M.'s short note in *L'Académie des Sciences* in March 1843, was the means of his receiving various communications from several of his colleagues, more especially from MM. Blandin and Sichel. From the former of these gentlemen he learned that a couple of travelling oculists in France have for fourteen years been in the habit of porforming this operation with varying success; putting forth no claims to invention, but affirming they only follow a practice which was successful before their days.

The author also refers to three memoirs which have since been published on the subject, by M. Rognetta in *Les Annales de Thérapeutique*, by M. Desmarres in *Les Annales d'Oculistique*, and by Dr Hamilton in the MONTHLY JOURNAL of March last; in the last two of which the practice, in certain circumstances, is advocated, whilst in the first it is unmercifully condemned.

M. M. ascribes the first notice of this operation, in medical records, to Saint Ives in the year 1722. This eminent man disapproved of the practice for the usual run of opacities of the cornea; but recommended it in those cases where the opacity was due to the sequela of a small-pox pustule.

Dr Mead is the next author who alludes to the subject, in the few words so often quoted, viz. "he had only once or twice employed the partial excision with success."

There follows next the opinion of the German, Eschebach, in 1651. A regular practitioner himself, he had opportunities of becoming acquainted with the misdoings of some wandering and unprincipled quacks, who on two occasions had undertaken to perform much, and miserably failed. His judgment, then, was decidedly condemnatory.

In France, M. Demours held similar language in 1768, enforcing it by the details of a case in which the opaque cornea had been subjected to innumerable scarifications, which resulted in leaving the opacity worse than it had been before.

In 1779, Professor Gouan of Montpellier read to the Royal Society of that city, a case in which the result was the very reverse of the preceding. In 1777 a child aged seven was brought to him, which had lost its right eye when three months old, and when eighteen months, and labouring under small-pox, had been rendered quite blind by an opacity or cicatrice which covered the whole cornea of the left eye. For this the more common remedies—stimulants, irritants, &c. had been long used in vain; and the professor then advised partial excision. For the performance of this operation he engaged the services of M. Pellier, surgeon oculist to the king, who excised about $\frac{2}{3}$ of the thickness of the diseased membrane. The child showed no indications of pain: cold dressings were applied, and after six days he could distinguish such objects as the fingers, keys, &c. Dr Gouan subsequently ordered the application of nut oil, under which the vision improved, and after the lapse of two years, the cure was still considered perfect.[1]

In 1789 M. Pellier gives the result of his more extended experience during ten years, in these words. "Though I have described this operation for the cure of albugo and nephelium, yet uniform success is not to be expected. Experience has taught me its insufficiency in some cases, and its success in others."[1]

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[1] Receuil de Mémoires et d'Observations, par M. G. Pellier, de Quengsy, fis. Montpel. 1783, p. 457.

Scarpa was very decidedly opposed to the operation, introduced, he alleges, by the ignorant, and commended by the charlatan. Wenzel was equally severe, remarking that it was likely to produce staphyloma.

In spite, however, of these authorities, Baron Larrey thought that the operation was sometimes worth a trial. In opacities of the cornea, says Larrey, of a certain degree of thickness, the membrane may be thinned down by repeated strokes of a slender bistory. I performed the operation upon a young lady at Toulon, and thereby removed an old opacity which covered the whole extent of the cornea, and completely interrupted the entrance of the rays of light. The transparency continued in the part from which the opacity was removed, and the patient ever afterwards saw very fairly.

These are all the facts and testimonies, *pour et contre*, which the commendable zeal of M. M. has collected, and unquestionably they form a useful addition to our stock. Finally, the author concludes with Professor Rosas' two cases at Vienna in 1833-4, and with a minute account of Dr Gulz's case in 1842.[2]—*Journal de Chirurgie*, April 1844.

[We believe that a prejudice, which to us appears unreasonable, exists in certain quarters against the practice which M. Malgaigne advocates. Most unwise would it be to settle any such controversy by the strength of testimony alone. But from the above statement it appears, that if such names as Demours, Scarpa, and Wenzel, may be arranged on the one hand, they may be met by such as St Ives, Mead, Gouan, Pellier, Larrey, and Rosas on the other; and a practice followed by such men, certainly should not summarily and wholesale be condemned. We wait with interest for M. M.'s promised additional contributions.]

THE APPLICATION OF PRISMATIC REFLECTION TO THE INVESTIGATION OF DISEASES SITUATED IN THE OPEN CAVITIES OF THE BODY. BY ADAM WARDEN, M.D.

It may be proper to remark, that I, in common with many others, have often felt the defectiveness of our professional resources for affording light to permit an examination of the nature of a variety of darkly seated affections, which are daily coming under the notice of the practitioner. My attention was specially awakened to this subject by the difficulties attending a case which came under my notice in November last; and I thereafter directed my endeavour to devising some means of supplying the defect. The case to which I allude was chronic disease of the ear, attended with discharge, and much impaired hearing, of three years' standing, and my aim was at first confined to the construction of an instrument adapted to that part of the body; but the principle which I hit upon I soon found to be capable of being greatly extended, and applied to the examination of disease seated in parts still more remote from observation, and to which actual inspection has not before penetrated in the living body.

The means I employed for effecting the purpose are based on the principle of illumination by means of totally reflecting prisms of flint glass; and in order to render it intelligible to the reader, I have appended a diagram of the instrument constructed for making examination of the auditory canal,—as an inspection of that instrument, in connection with what I have to say, with reference to the extension of the principle, will suffice to satisfy any one of its general applicability.

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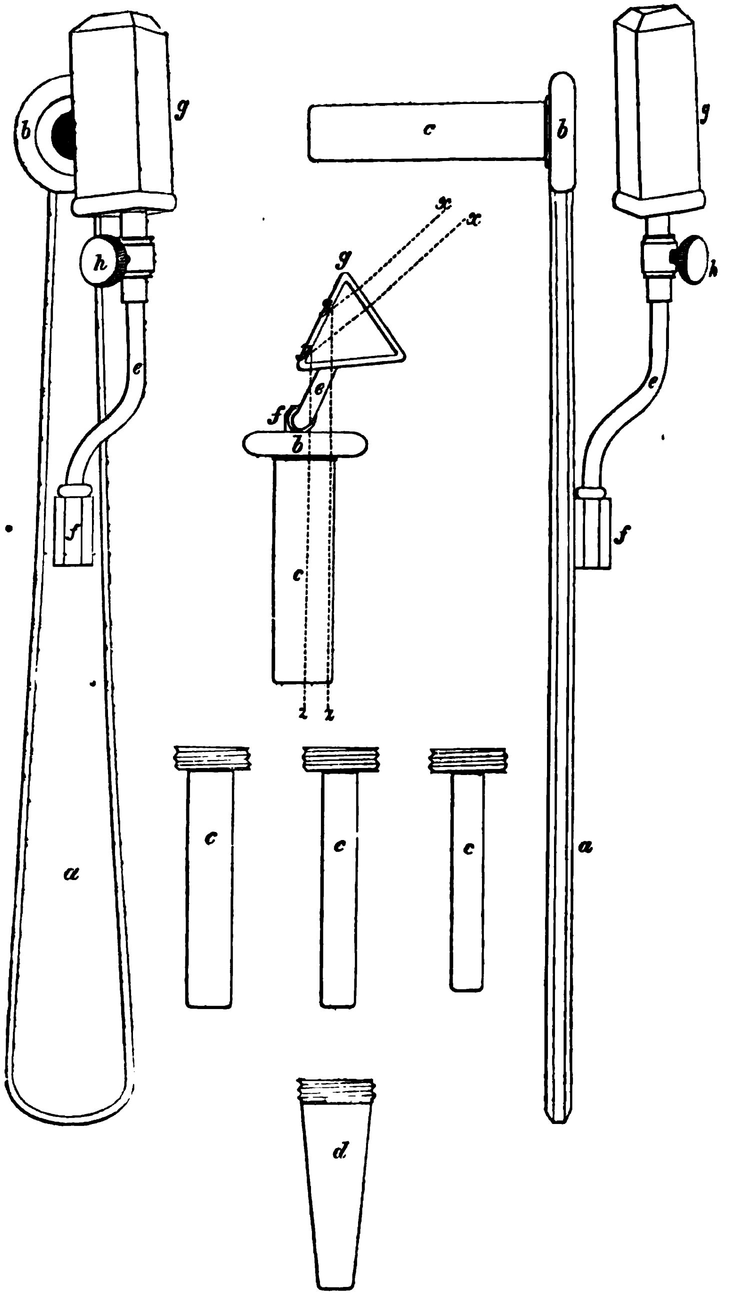
[1] Précis ou Cours d'Opérations sur la Chirur. des Yeux, 1789; tom. i. p. 106.

[2] The particulars of these cases were given by Dr Hamilton in our March number.

DR WARDEN'S PRISMATIC AURISCOPE.



The narrow and indirect tract of the external auditory canal, and the hairs with which it is commonly beset, are, as is well known, the natural obstacles to a correct view of its inward course and termination. By the aid of the *speculum* and owing to the moveable state of the cartilaginous portion of the tube, these difficulties in the way of observation are readily obviated. Sufficient light, however, to illuminate the yet dark passage remains the one desideratum, without which, to exhibit the actual condition of the membrane of the tympanum, the surgeon cannot pronounce as to the importance or curability of disease, nor resort, with confidence of its safety from danger, even to the popular remedy of the syringe.

Before describing the method of illumination which I have found fitted satisfactorily to fulfil this end, I beg to notice, that according, to my experience, preternatural constriction of the auditory canal, from morbid thickening of its walls, exists to a greater or less extent as a complication of chronic disease of the external ear, and by forming a physical impediment to the access of sound, all measures directed to restore the function of hearing, irrespective of this condition of the passage, must prove comparatively ineffectual. The instrument which I submit to your notice is therefore formed with the view of its being adapted, not only to the different developments of the organ of hearing in youth and age, but also so as to form a series of dilators, applicable to the removal of stricture, upon the same principle as regulates the treatment of the same disease in other situations.

The instrument devised and represented in the accompanying diagram, consists of a straight handle *aa*, five inches in length, terminating in a ring, *b*, of half an inch internal diameter, the ring grooved in its interior as a screw. To this screw are adapted four canulæ or straight tubes, *c*, of four, three, two, and one lines calibre, and another, *d*, of a funnel or tapering shape applicable for preliminary exploration, and removal of any accumulated cerumen obstructing the passage of the light, also for affording a proper field for the passage of instruments, and other topical manipulation. From the middle of the straight handle arises a curved branch *e*, moveable in a pivot joint at *f*, toward either side of the handle. This branch forms a stalk on which a prism of flint glass *g* is perched erect, to the level of the opening of the affixed canula. The prism rests in a metallic socket, and is made to revolve on its own axis at the touch of the finger, or to remain fixed in any desired position, by the aid of a small clamping screw, *h*. The instrument is thus complete for use. The canula is to be introduced into the ear to be examined, the patient being seated, exposed to a good light. The surgeon placing himself conveniently opposite to the side of the patient, a face of the prism is turned towards the light, and it is made to revolve until the luminous spectrum is conveyed to the bottom of the canula, and to the surface sought to be observed. There is no difficulty in the adjustment of the position when the new relations of the light and of the object are familiarized by a little experience; and when once this adjustment is made, the full and clear illumination of the object is at once obtained, and with a degree of brilliancy exactly proportioned to the quantity of light employed in the particular observation.

The principle or theory consists in *total reflection;* the light is received by one side of the prism, is reflected from the second side, and emerges by the third side to the object illuminated, as represented by the dotted lines *x y z*, and whence its view is revealed to the eye. The illumination is not preternatural or dazzling, such as would alter the real features of disease, but natural, and such as the eye is familiar with. The advantage of this flat natural light will be fully appreciated by professional eyes; and I am persuaded, from ample experiment, that any means of concentrating light by lenses, or converging mirrors substituted for the prism, would not improve the serviceableness of the instrument exhibited, although by their subsidiary employment they may be made to contribute to its efficiency, whenever, under extraordinary circumstances, more intense light is required.

The method of illuminating diseased parts by the medium of the prism is relieved from the intricacies inseparable from the employment of a reflecting speculum, whose curve must be anew adapted by the manufacturer to the focal distance of the object to be viewed, otherwise it is indistinct and distorted, as in a false mirror. Neither is the method invented by me liable to the objections applicable to various ingenious contrivances for the same end, which we owe to distinguished members of the profession. By the convenient position of the light in prismatic illumination, it is not liable to be intercepted by the shadow of the observer, as is the case with any direct light proceeding from behind him, —a disadvantage we are not free from even where sunlight is employed; and if a lamp and lens be placed between the eye and the object viewed, not only does the dazzling artificial medium alter the characteristic aspect of disease, but such apparatus, in order to guide any surgical procedure, must be kept strictly in such a position as necessarily to interfere with any convenient measures in the removal of foreign bodies, or other manual operations. By a construction of instrument suited to the situations of disease in the different cavities, increased facilities in surgical practice, I feel warranted in asserting, are largely attainable through the adoption of the method proposed by me.

It will not fail to appear of no small *moral* importance, that by this method of obtaining observation and applying satisfactorily treatment in the uterine diseases of females, the withdrawn position as it were, of the light, is calculated to lessen the misery attending all professional interference in such cases.

In conclusion, I may mention, that I have satisfied myself by varied experiments that a Totally Reflecting Prism placed in the angle of a bent canula, and illuminated by a second prism, in the manner already described, will afford a satisfactory view of objects whose situation precludes the possibility of direct observation—such as the opening of the Eustachian tube and of the glottis, the position of foreign bodies detained in the throat, &c. For the sake of illustration, I may state, that by a simple arrangement, consisting of two tubes, each twelve inches long, and one inch diameter, embracing at their point of junction, at right angles to each other, a right-angled prism, I have been enabled to make inspection with the utmost accuracy of exquisitely coloured drawings of the morbid anatomy of the eye; obtaining by the arrangement described a reflection of the image presented at the opposite extremity of such an instrument, and that in all the brilliancy of sunlight view.

I hoped to have accompanied this communication with a view of the instrument, which is in course of construction here, under my directions, applicable to the survey of the region of the throat; but as it has already undergone several modifications, and is not yet fully conformable to my wishes, I must reserve my description of it for a future opportunity. Furthermore, I find that a diseased surface can be accurately inspected at the extremity of a straight tube of twelve inches long and a quarter of an inch diameter; and I indulge the hope, that within this range a more satisfactory treatment of highly seated strictures and diseases of the straight gut, as well as of diseases of the urinary organs, may be thereby attained. That the latter expectation is not altogether visionary may be inferred from the fact, that the straight canula of the *brise-piérre* of Baron Heurteloup has a diameter of one third of an inch.—*London Medical Gazette.*

3, BAXTER'S PLACE, EDINBURGH,
May 4, 1844.

Report of the Royal Scottish Society of Arts on Dr Warden's adaptation of the Prism.

At a Meeting of the Royal Scottish Society of Arts, held on Monday, 10th June 1844,—Mungo Ponton, Esq., F.R.S.E., Vice-President, in the chair; the following report by the Committee on Dr Warden's communication was read and approved of.

Committee.

Dr TRAILL, Dr DOUGLAS MACLAGAN,
Dr COWAN, Dr RANSFORD,
Dr RANSFORD, *Convener.*

COPY REPORT of Committee of the Royal Scottish Society of Arts on Dr Warden's employment of the Totally Reflecting Prism for illuminating the open cavities of the body, with a view to facilitate the examination of disease, and the application of remedial means in such situations; illustrated with an Ear "Speculum" adapted to this method of observation.

The Committee met on Wednesday, 15th instant, and carefully examined this adaptation of the prism; they found, that, in narrow passages, such as the auditory canal, the invention was peculiarly fitted to assist in the discovery of disease; and, from the reports of other medical men, that it was found to be equally satisfactory in examining other cavities of the human body.

Dr Warden also laid before the Committee various Surgical instruments, in which the Prism may be used with great advantage; and the Committee have no hesitation in asserting, that this is a most ingenious and useful mode of throwing light, either natural or artificial, in all cases in which "Specula" are employed.

The Committee unanimously recommend it to the favourable consideration of the Royal Scottish Society of Arts.

Signed in name of the Committee.

CHARLES RANSFORD, M.D., F.R.S.S.A., *Convener.*

EDINBURGH, May 22, 1844.

AMPUTATION AT THE ANKLE-JOINT, AS RECOMMENDED BY MR SYME.

BY W. LYON, Esq., Glasgow.

In a letter to Professor Syme, Mr Lyon describes a case in which he performed disarticulation at the ankle, an operation which has been recently revived, and improved by the former, by whom it has been practised in five instances, additional to the two of which accounts were published in the MONTHLY JOURNAL. Mr Lyon considers this operation as safer than amputation in the lower third of the leg; and as being also better from its leaving a longer and more powerful stump, with a broader, more rounded, and more protected extremity.

The patient had strumous disease of the tarsal bones, for which he refused to submit to Chopart's operation. The os calcis and astragalus became affected; when Mr Lyon, incited by the results of amputation at the wrist, and in the elbow, practised disarticulation at the ankle, as recommended and described by Professor Syme in this Journal. (Vol. for 1843, pages 93, and 274.) The operation was found easy of execution. An opening was made in the middle of the posterior flap for the escape of the secretions; the wound was dressed in the usual manner; cold water was applied. Very little local or general disturbance followed. On the 6th day, the margin of the posterior flap was found to have sloughed, but union soon ensued; in 14 days from the operation, but for the loss by small slough the wound would have been healed; the patient was daily out of bed, and had he possessed sufficient strength, would have been allowed to take exercise in the open air. If there are any objections to the operation, Mr Lyon thinks they may be obviated by avoiding cold applications to the wound, which is questionable after the circular method of amputation, and hazardous here from the greater liability of the circulation to be arrested in the large insulated posterior flap, not very liberally supplied with blood, and with its vessels ramifying far from their origin. As union between the synovial membrane and cellular substance in the flap is unlikely, Mr Lyon recommends the maintenance of *close easy* contact of the margins of the flaps, by the use of the interrupted suture, so that their union by the first intention occurring, the blood passing from the vessels of the anterior into those of the posterior flap, sloughing will be prevented. For similar reasons he advocates the avoiding of pressure, by using short strips of plaster acting on the margins only; the omission of compress or bandages; means for retaining or supplying heat; and as particularly requisite in consequence of the close approximation of the lips of the wound, a *free* opening in the centre of the posterior flap.—Abridged from the *London Medical Gazette* for May 31, 1844.

STATISTICS OF FRACTURES.

In our January Number, Mr Lyon gave an interesting statistical account of the cases of fractures which had been treated in the Glasgow Royal Infirmary by him; the following table shows the number of fractures admitted into the London Hospital during the year 1843:—

	In-Patients.	Out-Patients.	Total.
Skull,	14	...	14
Face,	14	4	18
Spine,	4	...	4
Ribs,	115	42	157
Pelvis,	5	...	5
Thigh,	56	4	60
Patella,	14	1	15
Leg,	150	6	156
Foot,	24	2	26
Shoulder-bone,	5	10	15
Collar-bone,	12	104	116
Arm,	32	52	84
Fore-arm,	18	138	156
Hand,	18	55	73
Total,	481	418	899

24 of the 481 in-patients died, but we are not informed to what class the fatal cases belonged.—Abridged from *the London Med. Gazette* for March 1, 1844.

SCROFULOUS ABSCESS OF THE NECK, WITH PERFORATION OF THE JUGULAR VEIN: DEATH. BY DR HOFFMANN.

A child, five years of age, on recovering from scarlatina, suffered an attack of inflammation and swelling in a cluster of subcutaneous glands situated on the right side of the neck. The glands suppurated. Fluctuation became distinct. A certain tremor, which was perceptible by the hand, and noise which could be heard by the ear applied to the abscess, were held suspicious symptoms, and much hesitation was therefore felt in puncturing the tumor; in fact, this was not done until after a consultation held with a regimental surgeon, who approved of the measure. The abscess was punctured, but immediately an ample stream of blood revealed the true nature of the mischief. The blood at first had a dirty red colour, undoubtedly from the admixture of pus; but before it could be arrested it appeared quite pure. The puncture was forthwith closed, and gentle pressure maintained by means of a bandage; but this was scarcely secured when the patient expired.

On examination after death, it was found that the external jugular vein was perforated like a sieve in a space three quarters of an inch in length, and that the parts of the vessel above and below this portion were discoloured and soft.

The abscess, which was regarded as metastatic in its nature, had, in fact, extended to the walls of the vein which lay over it, and perforated them.—*Casper's Wochenschrift*, March 30, 1844.

[We think that the preceding case is improperly designated "*Scrofulous Abscess of the Neck.*" It was evidently one of those abscesses which frequently form in the cervical region after scarlatina, and which seem to have no necessary connection with the strumous diathesis.

A case, in which an opening formed between an abscess and the internal jugular vein, is narrated by Dr King, at page 177 of the MONTHLY JOURNAL for 1843; another by Mr Bloxam, in th e*Medico-Chirurgical Transactions*, vol. viii., page King's College, third, in the same respects analogous, by Professor Fergusson of 112;[1] and a London, will be found in Mr Liston's recent memoir "*On a variety of False Aneurism.*"]

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[1] Quoted in MONTHLY JOURNAL for 1843, p. 386.

MATERIA MEDICA AND CHEMISTRY.

Tela Vesicatoria.

After various experiments on the most suitable way of preparing blistering plaster, Octthinger of Munich recommends the following as the best.

R. Cantharid. pulv. recent. ʒiij.
Ætheris sulphur. ʒi. Digere per 24 horas. In colatura solve.
Sandarac. ʒiv.
Mastiches. . . ʒss.
Terebinth. . . ℈i.
Ol. lavand. . gtt. xii. Cum hac solutione illinc strata tria supra taffetam pencilli ope.—*Gazetta Medica di Milano*, April 1844.

Analysis of Cod-Liver Oil.

An elaborate investigation has been instituted into the chemical constitution of the oil derived from various species of fishes of the genus *gadus*, by M. de Jough. He analysed the oil from the liver of the *cod*, the *coal-fish*, the *haddock*, the *whiting*, &c. That of the cod is the best, and the most abundant. The analysis of the latter is valuable from its throwing some light upon its therapeutic properties. There are, as is well known, three varieties of cod-liver oil—white, brown, and black. The white oil separates spontaneously first, the brown more slowly, and the black is extracted from the livers by boiling in water after the white and brown oil have been extracted.

M. Jough gives the following as the results of the analysis of the three kinds of oil.

100 parts of oil contain :

	Black.	Brown.	White.
Oleic acid, gadeine, and two other bodies not yet studied, ...	69·78500	71·75700	74·03300
Margaric acid, ...	16·14500	15·4210	11·75700
Glycerine, ...	9·71100	9·07300	10·17700
Butyric acid, ...	0·15875	...	0·07436
Acetic acid, ...	0·12506	...	0·04571
Fellinic and cholinic acids, with some fatty impurities, ...	0·2990	0·06200	0·0430
Bilifulizine, bilifilinic acid, mixed with some unknown matters, ...	0·87600	0·44500	0·26300
A peculiar matter soluble in alcohol, .	0·3800	0·01300	0·00600
A substance, insoluble in water, alcohol, and ether, ...	0·00500	0·00200	0·00100
Iodine, ...	0·02950	0·4060	0·03740
Chlorine, with a trace of bromine, .	0·08400	9·15880	0·14880
Phosphoric acid, ...	0·05365	0·07890	0·09133
Sulphuric acid, ...	0·01010	0·08595	0·07100
Phosphorus, ...	0·00754	0·01136	0·02125
Lime, ...	0·08170	0·16780	0·15150
Magnesia, ...	0·00380	0·01230	0·00880
Soda, ...	0·01790	0·06810	0·05540
Loss, ...	2·56900	2·60319	3·00943

The substance to which M. Jough has given the name of gadeine is a peculiar organic body, having the formula, in an isolated state, of C_{36}, H_{40}, O_9, in combination with a base, Rx C_{44}, H_{64}, O_8.

The extremely complex constitution of cod-liver oil must influence greatly its therapeutic value. Its especial effects have been attributed to the presence of iodine, but the bromine, chlorine, and more especially the phosphates, says M. Boudet, must be considered the elements which make it applicable to rachitis and other diseases. Probably a sufficiently marked difference will be found in the effects to enable us to determine which kind is most applicable to certain diseases, and a comparison of the results of practical reference with the analysis, will hereafter indicate the particular element which it may be desirable to isolate. These analyses must, however, be repeated by many chemists before any very satisfactory results will be obtained.—*Lancet* for June 1, 1844.

ON THE USE OF ATROPINE AS A SUBSTITUTE FOR BELLADONNA.

BY W. WHITE COOPER, Esq.

I have used atropine, the essential principle of belladonna, and as a substitute for that drug, in a considerable number of cases, with the greatest satisfaction; the proportion being two grains of atropine, (dissolved in a drachm of rectified spirits of wine,) to seven drachms of distilled water. A colourless solution is the result, equally efficacious in its action, and much more elegant than the ordinary preparations of belladonna; a full drop placed in the eye produces speedy and complete dilatation of the pupil, in the generality of cases, although, in some instances, a stronger solution may be required. I have never observed any ill effects from its use, although I have tried it in the proportion of four grains to the ounce, but I think two grains will be found to answer every purpose. I direct a drop to be used night and morning, when I wish to keep up the dilatation of the pupil.—*Lancet*, 8th June 1844.

PART FOURTH.

MEDICAL NEWS.

STRICTURES ON AN ARTICLE ON THE VALUE OE DIGITALIS IN CERTAIN DISEASES OF THE HEART, BY PROFESSOR WILLIAM HENDERSON OF EDINBURGH. BY J. A. EASTON, M.D., Professor of Materia Medica in Anderson's University; Surgeon to the Glasgow Police, &c.

To the Editor of the London and Edinburgh Monthly Journal of Medical Science.

SIR,—In an interesting article on the value of digitalis in certain diseases of the heart, transcribed from the first number of the *Northern Journal of Medicine* into the number for the present month of your valuable periodical, Professor Henderson makes statements at variance, in my opinion, with the prevailing notions regarding the circulation of the blood, and recommends the rejection of digitalis in disease of the heart connected with patency of the aortic opening, on grounds which, with all deference to such high authority, appear to be physiologically incorrect in premises, and consequently valueless in conclusion. In order, however, that your readers may judge of the validity, or otherwise, of this rather serious charge against a Professor in the renowned University of Edinburgh, I submit the following ISSUE—as the lawyers in your good city term it—and shall do little more by way of opening speech, than solicit an unbiassed consideration of the evidence, and a dispassionate verdict. I may be permitted farther to premise, that with the drawing up of the ISSUE the learned professor cannot find the slightest fault, seeing that it has been wholly framed by himself.

After some general remarks, the professor proceeds as follows, "Patency of the aortic opening, at that period when the ventricles are being filled, necessarily admits of regurgitation from the aorta, the effects of which are an overloading of the left ventricle, and gradually an enlargement of it—an enlargement so great ultimately, if the patient survive long, as to exceed, often to a great degree, that which occurs under any other circumstances. The greatest enlargement of the heart I have seen," continues the professor, "larger than any other on record, was the consequence of permanent patency of the aortic opening. All the chambers of the organ had become affected with excentric hypertrophy, and to so great a degree, that the weight of the empty heart amounted to thirty-six ounces, two drachms and a half—above four times the average weight of the healthy heart. *Such being the tendency and issue of that overloaded condition of the organ which results from regurgitation of the aorta, it will be granted, that whatsover increases the amount of the regurgitation, must accelerate the progress of the enlargement. That the less frequently the heart beats, the greater will be the opportunity for this regurgitation is sufficiently obvious; and hence it is, that the prolonged employment of digitalis cannot but be injurious when the aortic valves are not competent for their office.*"

Now, Sir, by attending particularly to the lines marked in italics, your readers will perceive, that the professor states most correctly that, in the malformation alluded to, whatever increases the amount of the regurgitation must accelerate the enlargement of the heart, but I think they will also perceive, that he is wrong in stating, that the less frequently the heart beats, the greater will be the opportunity for this regurgitation, and if they agree with me in this opinion, they will also agree, that digitalis under such circumstances may not be so injurious as he represents. This then is the question—When the aortic opening is patent, and the heart's contractions are reduced in frequency and force by any agent whatever, is the regurgitation into the left ventricle rendered more frequent? In maintaining the negative of this question, permit me to call your attention to the following axioms regarding the circulation. 1. The great moving power of the blood is the *vis a tergo*—the heart. 2. Throughout the whole extent of the blood-vessels, from their commencement at the left ventricle, to their termination in the right auricle, there is no vacuum. 3. The force with which the arteries contract, is proportionate to the volume of their contents. The first and second axiom having been introduced as accessory only to the general argument and illustration to be used in the sequel of these remarks, I shall confine my attention almost exclusively to the third, and to the important deductions which the correct appreciation of it compels us to make. Founding my opinion then, especially on the last axiom, and connecting it at the same time with the first, I maintain that as the aorta only becomes distended by the quantity of blood which is sent into it by the contraction of the left ventricle, so it will propel in the normal, or regurgitate in the abnormal state of its valves, precisely to the extent of the force that was employed to distend it. The artery, already filled with blood, obeys the mandates of that physical law which compels it to expand its elastic walls and give a momentary accommodation to the fresh portion of blood which the heart is sending in at every systole; the pressure instantaneously goes off, the distended walls contract to their former size, and this alternate extension and diminution, at the commencement, being succeeded by like distension and contraction throughout the whole extent of the vessels, the blood is thereby propelled through the whole system, and at length returns to the great propelling agent in the centre. If this be the case, if the circulation is effected in no other way, surely then it is obvious that the contractions of the aorta, as to number and power, can only be proportioned to the number and the power of its previous distensions, and, as regurgitation can only succeed contraction, and this contraction is regulated by the amount of the previous distension, which again is caused by the heart, is it not clear that in the case of patency of the aortic opening, the regurgitations, thereby arising, can only be according to the frequency and the force of the previous ventricular systoles? If, in such a malformation, these systoles be few, the regurgitations will also be few; if the cardiac systoles be weak to propel, the aortic contractions must be weak to regurgitate. But as I am sufficiently aware of the danger I incur in breaking a lance with such a formidable opponent as an Edinburgh Professor, I shall fortify my position by getting behind the entrenchments of Müller and Magendie. Treating of the essential characters of the heart, Müller says that the heart is that part of the vascular system which is endued with *active* motion, and that the rest of the same system consists merely of tubular canals, which *in reference to motion*, are passive, but may exert other important influences on the blood.[1] In the next quotation which I shall make from the work of this great physiologist, the *backward* movement from the arteries is certainly not mentioned, because the author is describing the course of the blood as it takes place in the normal state of the circulatory apparatus, but as the movements of that fluid either backwards or forwards, in an artery, are the result of the vessel's previous distension and subsequent contraction, I presume that most of your readers will admit that what is physically true of the latter of these movements cannot be false of the former of them. After stating that neither air nor a vacuum exists in any part of the vascular system, Müller makes the following observations, which, though rather long, yet bear so much upon the question under consideration, that I must be pardoned for quoting them at full length. "The contraction of the aortic or left ventricle cannot advance the blood in the arteries, except by forcing on the column of blood already contained in them; and the advance of the column is proportionate to the space which the blood forced through the aortic orifice by each contraction of the ventricle—namely, from one to two ounces—occupies in the commencement of the aorta. When the contraction of the ventricle remits, the cause of the motion ceases, but the elasticity of the arteries overcomes the resistance offered by friction in the minute vessels, and still forces the blood onwards; a continuous current is thus produced from the aortic valves to the capillary vessels; when the aortic ventricle again contracts, and again forces one or two ounces of blood into the aorta, the current is accelerated, and the column of blood is advanced to the same extent as before. The result of this succession of actions must be, that exactly the same quantity of blood enters the heart from the veins as was expelled from it in the same space of time by the contraction of the ventricles; for the whole mass of blood forms one great circle from the heart to the heart,—a circle, at each and every point of which the same quantity of blood must pass within a given time."[2] Entertaining similar opinions, Magendie thus expresses himself, "But though I consider as certain the dilatation and contraction of the arteries, I am far from thinking, with some authors of the last age, that they dilate of themselves, and that they contract like the muscular fibres; on the contrary, *I believe that they are passive in both cases*, that is, their dilatation and contraction are only the effect of the elasticity of their sides *put in play by the blood*, which is continually injected into their cavity by the heart."[3] From this very strong testimony, I think, Sir, it is evident that according to these eminent authorities, the aortic distensions and contractions are not dependent upon any inherent power vested in the aorta, but are solely produced by the *primum mobile* of the circulation, and therefore, can you wonder that, after reading such opinions, plain persons, like your humble correspondent, should stagger at the doctrine,—even though Professor Henderson says it is "sufficiently obvious,"—that in the case of patency of the aortic opening, "when the heart beats *less* frequently, the *greater* will be the opportunity for regurgitation." If the heart beats but fifty times in the minute in place of seventy-five times, will not the contractions of the aorta, no matter what the state of its valves, be but fifty too? If, in place of sending forth at each contraction, one ounce and a half of blood, the heart sends forth only half an ounce, can the aorta propel or repel, under any circumstances whatever, one drop more or less than that half ounce? If the cardiac contractions have been diminished in frequency, and weakened in force by digitalis, or by any thing else, what matters it to the aorta, which, whether well formed or ill formed, can only act as it has been acted upon? The more forcibly, says Muller, that the heart acts, the more are the arteries extended, and the more blood do they contain in proportion to the veins. On the contrary, *when the heart's action is feeble*, the coats of the arteries are more able to resist the impulse of the blood; they become less distended, and consequently contain proportionally less blood than the veins. Again, speaking of the gradual diminution in diameter, which he, Parry and Tiedeman, had observed in arteries during the dissection of a living animal, he says that this (the gradual diminution) must be attributed neither to the stimulus of the air, nor generally to the vital contractility of the arteries; it is a necessary consequence of the diminished force of the heart's action under such circumstances.[1]

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[1] Müller's Physiology, p. 171.

[2] Op. cit., p. 174.

[3] Magendie's Physiology, p. 419.

But admitting, with some physiologists, that the arteries have the power of contracting independently of the heart's influence, it is still clear, that they cannot exercise that power without the presence of their natural stimulus. Granting, as is maintained by some, that the arteries have been made to contract by the application of galvanic and other stimuli,—a circumstance, however, which is positively denied by Magendie,[2]—yet it will be generally admitted, that the appropriate stimulus of these vessels is blood in motion, and that the frequency and force of their contractions will be regulated by the amount of the circulating fluid which is sent into them by the vis a tergo. When the amount of blood in them is unusually small and renewed at comparatively long intermissions, does their inherent power—call it vital contractility, irritability, tonicity, or what name you will—make *their* pulsations vigorous and frequent, while those of the heart are weak and slow? If the reverse of this be the case, then, even admitting the existence of this independent arterial force, it appears, I think, "sufficiently obvious," that without having recourse to the artificial stimuli, that force can only be called into operation, and the degree of it be regulated by the presence and amount of the blood which from time to time is supplied by the heart.

For the reasons now adduced, Sir, I am compelled to dissent from the opinion of Dr Henderson, on whose language I would make a slight change, on the principle of Dumas' theory of substitution, and say, "That the less frequently the heart beats, the *less* will be the opportunity for regurgitation is sufficiently obvious." The substitution, which is marked in italics, is, as you will perceive, not a large one, considered geometrically, for it only requires us to read the "*less*" word for the "*greater.*"

In conclusion, it is no part of my case to prove that digitalis is *useful* in disease of the heart connected with patency of the aortic opening; all that I contend for is, that even granting it to be injurious in this disease, it is not so on the grounds set forth by Professor Henderson. I am, SIR, your obedient servant,

J. A. EASTON.

29 COLLEGE STREET, GLASGOW, June 12, 1844.

LETTER FROM DR WARDEN.

EDINBURGH, 19th June 1844. 3 BAXTER'S PLACE.

DEAR SIR,—Since my late communication to the Medico-Chirurgical Society, on a new method of investigating diseases seated in the dark open cavities of the body, further observation and more perfect instruments have tended to confirm the anticipations I ventured to express on that occasion, that more precise knowledge of the nature and seat of disease is to be attained thereby, as well as increased facilities for the application of appropriate remedies.

The practicability of throwing light upon diseases, whose nature and situation were previously but darkly guessed at, is attested by the committee of the Society of Arts in a manner not less gratifying to me than it must be conclusive to others; and, as the method is not based on speculation, but on a familiar scientific principle, there can be no room for fallacy with regard to it. I am less concerned, therefore, to bring forward evidence of the utility of prismatic illumination, as applied to diseases of the ear, for the present, than to exhibit the applications of the same method to the investigation and treatment of affections still more important; and my attention is occupied in completing instruments adapted to other regions of disease, as announced in my published paper. I am now ready to submit for the inspection of my professional friends, instruments adapted to vaginal and rectal diseases, such as nearly come up to my wishes, although necessarily they have not been tested by sufficient experience. The great irritability of the parts in the region of the throat, requires to be provided against by a more finished roundness and suitableness of mechanism, than is readily to be commanded; but I do not despair of attaining the object fully, here or in London.

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[1] Op. cit., p. 202.

[2] Op. cit., p. 419.

I shall be happy to have the advantage of your respectable columns, and of all other proper channels for bringing the farther result of my attention to this interesting subject fully before the profession. I remain, dear Sir, your most obedient servant Adam Warden, M.D., F.R.C.S.E.

Dr Cormack, Editor of the Monthly
Journal of Medical Science.

HOMŒOPATHY, ETC., AT A DISCOUNT!

A new reformer in medicine, *Ernest Mahner* by name, has sprung up in Leipsic. The prophet is foreshadowed even in his external appearance. He pretends that he has discovered, or at least brought to light again, the original and primitive Hygiéne; and has already committed to print a portion of his grand panacea. Abstracting himself from all former medical theories, he rejects alike allopathy and homœopathy, the nearest thing he comes to is hydropathy. It is his innate conviction, that by the adoption of his purely "Natural System," physic and physicians will henceforth be superfluous. That the man possesses a clear understanding, some wit, and is a ready speaker, we cannot deny; he lectures to crowds of students in *convictorio*, and at times also in the Rosenthal. If he is to be believed, he has made personal trial of his doctrines: for a time he dwelt in the wilds of America: at another, for the purpose of strengthening his system, he practised daily swimming in the sea in the month of January during a sojourn in Calais; he also took long walks, stark naked, during a keen frost; lay amongst grass covered with hoar frost, &c. and all this for the purpose of testing to the uttermost the powers of resistance of nature. In a word his system may be described as emphatically "a hardening one."—*Allgemeine Zeitung sur Chirurgie, &c.*

This system, in part at least, has long been in practice in the Highlands and Islands of Scotland, a visit to which would assuredly rejoice the heart of Herr Mahner. Even in some of the southern parts of the island, we do not despair of his finding converts—the more striking his propositions, the more readily will he be to find such. L'homme est de glace aux verités. Il est de feu pour le mensonge.

OBITUARY.

Death of Dr Hope, late Professor of Chemistry.—This gentleman, so long eminent as a teacher of Chemistry, died at his residence in Moray Place, Edinburgh, on the 13th of June.

TO READERS AND CORRESPONDENTS.

Surgery.—In our next and following Numbers will appear a selection from the cases which were treated in the wards of Clinical Surgery in the Royal Infirmary of Edinburgh, during last Session; with Remarks upon them. By Professor Syme.

⁂ Our last and present numbers between them, we beg our subscribers to observe, contain 44 pages of extra matter, without any additional charge. Notwithstanding of this extension of our limits, we are still obliged to postpone our Reports of Societies, and much other matter of great value and interest.

In noticing the Lecture on Physical and Intellectual Life, at p. 543 of last number, the name of the author, Dr Samuel Wright of Birmingham, was omitted.

Appendix to the Original Articles.

PROFESSOR A. THOMSON ON DOUBLE MONSTERS.

(Concluded from page 584 *of this Number.)*

It does not come within the scope of this paper, which has already exceeded the length originally designed, to refer to particular cases of malformation in illustration of the general statements brought forward. I cannot leave the subject at present, however, without making mention of several interesting specimens, which, through the kindness of Dr William Campbell of this city, I have had an opportunity of seeing in his museum.

One of these is a very perfect example of ischiadelphic double monstrosity, in which two equally developed fœtuses are united by the lower part of the trunk as far as the common umbilicus; the pelvis being common, and apparently composed, as in other examples of the same kind, of the parts of both individuals. In this highly interesting example, as it has not yet been fully dissected nor described, I shall only state, that there is not situs inversus of the non-symmetrical organs, at least of the heart, stomach, spleen, and liver, in either of the individuals composing it.

Three other specimens in Dr Campbell's museum are of interest in connection with the history of double monsters; one of thoracic and abdominal union of two embryoes, otherwise complete externally, but not advanced beyond the tenth week of utero-gestation.

A second specimen of two embryoes arrived at about the 14th week of utero-gestation, presents an example of union to a very small extent, immediately above the common umbilicus, very similar in fact to that of the Siamese youths. A third exhibits an example of unequal development of two embryoes, which are united by the thorax and abdomen; the larger fœtus, apparently of the age of four and a half or five months; the other, which, had gestation proceeded to the full period, might have constituted a parasite, being considerably less developed, hemicephalous, mis-shapen, and atrophied in the region of the neck, and in some other parts.

The following general conclusions seem deducible from the foregoing observations and reflections upon the early history of double monsters.

I. Double monsters consist in the union of the whole, or of part, of two embryoes.

II. Mere redundance, or increased number, of unimportant organs, does not constitute true double malformation.

III. The two individuals composing a double monster may be either equally or unequally developed.

IV. The double condition belongs more frequently to the cerebro-spinal axis, and the animal organs connected with it, than to the visceral systems.

V. It seems probable that no important organ is found truly double, without there being also some degree, however slight, of duplicity in a part of the cerebro-spinal axis.

VI. Every degree of duplicity is to be met with; but the same or similar modes of union, and consequently nearly the same forms of double monstrosity, continually return. These forms may be reduced to seven; viz.

1. Union of two complete individuals by one of the extremities of their cerebro-spinal axes. This is probably the only form of double monster in which the umbilical cord is double. In some examples of this description, the body of one of the embryoes is atrophied to a greater or less extent.

2. Union of two complete individuals by a small portion of the visceral parietes, close to the umbilicus, which is probably always single.

3. Union of two individuals, which are both nearly perfect, by a portion of

the visceral parietes, generally a part of the thorax and abdomen, with commumunity or fusion of some of the contained viscera.

The three next classes present more intimate cerebro-spinal as well as visceral union in different forms and degrees.

4. Union of two individuals extending to the deeper parts of the head; more or fewer, however, of the parts of the face, thoracic parietes, &c. of both the united individuals being present, but symmetrically fused together so as to form common parietes.

5. The two individuals of a double monster so united, that it is reduced more or less in one part to the condition of a single individual. It may be either double above and single below, or single above and double below; the parts of both individuals being equally developed.

6. The same as in the last, with the parts of one individual less developed than those of the other, as in parasitical monsters.

7. Double monsters by inclusion.

VII. The investigation of the early condition of double monsters is calculated to throw much light on the theory of their formation. Six examples of double monsters have been observed in the ovum of birds during their formation. The earliest of these, described by myself in this paper, was in the first day of incubation. The latest is that described by Wolff, and was at the 6th day. The four remaining examples were all of a period corresponding nearly to the third day of incubation in the fowl's egg; or at what may be considered as one of the most transitory stages of fœtal development; one observed by Wolff, another by Von Baer, a third by myself, and a fourth by Reichert.

VIII. These are the only examples of double malformation observed at an early period of development with which I am acquainted, and it deserves to be noticed, that in all of them the two embryoes were placed on one yolk, and in a single germinal area of that yolk.

IX. In Wolff's example, both embryoes were complete, and were still quite separate at the 6th day; in the one described by myself, at the third day, the cerebro-spinal axes and the rudiments of the principal organs connected with them were complete, but the heart was single; in Von Baer's specimen, the head was single, but the heart double; in Reichert's both the head and heart were single, or common to the otherwise divided embryoes.

X. The earliest of the two specimens described by myself presents two primitive grooves placed near one another in the same germinal area, and seems therefore to indicate a double state of the germ from the first. We have yet to learn, however, what is the nature of that double germ previous to fecundation.

XI. The specimen now referred to, as well as other circumstances adverted to in the paper, render it extremely improbable that the embryoes of two distinct ova ever become conjoined so as to form a double monster, unless by obviously morbid and non-symmetrical union.

XII. The degree of duplicity in a double monster, or its organs, may be supposed to bear some relation to the original distance between its two primitive germs, and to their direction with reference to one another.

XIII. The combination or fusion of the organs which occurs to a greater or less extent in incomplete double monsters, may be considered as the result of a simultaneous, abnormal, and combined development at the period of their formation, and not as the effect either of ulterior separation of single, or combination of double and distinct organs.

XIV. In one of the two individuals composing a double monster, at least when there is more of lateral than of opposite union, the position of those organs in the body which are naturally non-symmetrical is reversed, so that the two individuals are symmetrically formed as regards one another. This remarkable fact may be theoretically connected with the unnatural position in which the *right* (dexter) individual of the pair is necessarily placed on the surface of the yolk; and thus there is afforded a confirmation of the ingenious explanation offered by Von Baer, of the occasional occurrence of the malformation of *situs inversus* of non-symmetrical organs in a single body.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations.* *By* JAMES SYME, Esq., *Professor of Clinical Surgery in the University of Edinburgh, and Surgeon to the Queen in Scotland.*

LITHOTOMY.

CASE 1. Robert Bruce, aged 3 years and 10 months, recommended by Mr Philp of Kirkcaldy, was admitted on the 26th of October, on account of stone in the bladder. It was extracted on the 31st, and he was dismissed on the 18th of November.

CASE 2. Henry Hutcheon, aged 6 years and 9 months, from North Berwick, was admitted on the 4th of November, on account of stone in the bladder. The operation was performed on the 8th, and he was dismissed on the 28th.

CASE 3. James Patterson, aged 3 years and 6 months, recommended by Dr Stenhouse of Dunfermline, was admitted on the 30th of December, on account of stone in the bladder. The operation was performed on the 3d of January, and he was dismissed on the 17th.

In the cutting part of these operations, the only instruments employed were a common grooved staff and a straight bistoury, blunted to within an inch and a quarter of the point; and all the experience I have had in operating upon children leads me to the persuasion, that before the period of puberty any additional apparatus would be useless and inconvenient. But in adults, where the prostate gland has become developed, along with the other organs concerned in generation, the state of parts being materially different, a corresponding alteration in the mode of procedure is requisite for its safe and effectual performance. The necessity of this rests upon the importance of dividing the gland to a certain extent, and upon the deep situation of the part concerned, which prevents the incision from being precisely regulated by sight or touch.

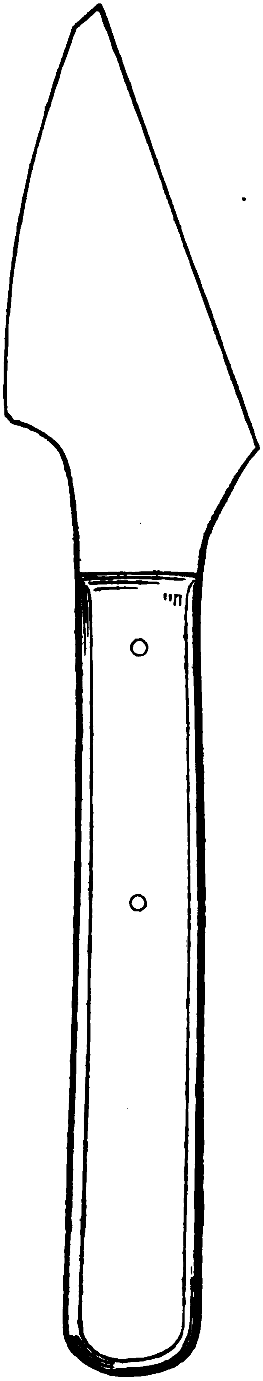
It would not be correct to say that the incision of the prostate is the most important step of the operation, since imperfection in any part of the process prevents it from leading to a good result. If the external incision be too small or not well placed—if the muscles of the perineum be not fully divided,—and if the stone be not properly extracted, the most perfect incision of the prostate will not protect the patient from danger. But if not the most important, it certainly is the most critical step, since, while the others admit of being modified and corrected, the character of this one is determined in the moment of its execution. If it be too free, it cannot be contracted; and if too limited, it cannot be extended without endangering the neighbouring parts. It hence becomes of great consequence to determine the proper extent of incision and also to ascertain the means of effecting it with most precision.

Notwithstanding the diversity of opinion at present existing on the subject, and the conflicting statements of experienced writers, I am persuaded that all successful operators have made their deep incision nearly to the same extent, and that the apparent discrepancy between their directions proceeds merely from the careless use of language suggested by the impressions under which they wrote. I have been led to this conclusion, in the first place, by ascertaining that there is a part at the neck of the bladder which *must* be divided, in order to allow the extraction of even a small stone, without inducing fatal inflammation of the bladder; and that if this part be divided, additional space is readily obtained through dilatation by the finger, the remaining part of the prostate tearing in the direction it is cut,—the mucous membrane of the bladder stretching,—and the fibres of its muscular coat separating from each other; and secondly, by finding that the various forms and modes of incision which have been recommended on the ground of success, when carefully considered and compared with their contexts, are calculated to produce this effect. The part I mean is that which is usually called "the neck of the bladder," which opposes the final resistance to passing a catheter, which gives the feeling of a ring when the finger is introduced through it, and which seems to be the most sensitive portion of the urinary apparatus. When catheters or bougies reach this point, sickness and fainting frequently betray its peculiar sensibility of irritation; and when the stone presses upon it, the patient suffers an agony that characterizes his complaint. I believe that leaving this ring entire is the most dangerous error which can be committed in performing lithotomy. It results either from the misleading influence of such statements as, "the less that is cut, the greater will be the patient's safety,"—"the success in lithotomy is in the ratio of the force employed to extract the stone,"—"the acme of excellence I believe to consist in cutting nothing,"—or from inability of regulating the instrument employed, so as to cut the extent desired.

In operating with a curved staff, it is very difficult to know how far the knife cuts when it is run along the groove. The perineums of different people vary so much in the proportional size and relative distance of their component parts; and the instrument is so apt to have its direction changed by movements of the patient, or of the assistant's hand which holds the staff, that the incision cannot be regulated as in other operations, where it is guided by sight or touch.

Mr Cross of Norwich has declared[1] his conviction from what he personally witnessed, that Mr Martineau did not cut nearly to the extent he has described in publishing his 84 cases, of which only two proved fatal. But if a surgeon so experienced cut less than he intended, and supposed,—is it not possible that others may have unconsciously exceeded the bounds prescribed by them? At all events it must be admitted that except in the hands of those, not always the most distinguished members of their profession in other respects, who acquire the trick or knack of operating with them, a straight knife and curved staff are very uncertain means of executing the prostatic incision.

In a former number of this Journal I advised the use of a straight staff introduced through the wound of the perineum, as a guide in cutting the prostate, and I have now to propose a knife which promises to obviate all risk of error in making the incision through this part. It was suggested to me by the case of a respectable citizen here, on whom I had occasion to operate. He was corpulent to an extreme degree, and possessed a perineum of extraordinary depth, as well as brawny firmness. The stone was removed with success, but I did not feel satisfied with the operation, from finding that in such circumstances the means employed were not adequate to effect division of the prostate



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[1] Treatise on Urinary Calculus, p. 156.

with facility and accuracy. With the view of rendering the process more certain, I carefully reconsidered the subject, and made many trials upon the dead body, with the result which is here represented. It is a triangular shaped knife, straight and blunt on the back, for running in the groove, and sharp on its convex edge from the point half-way backwards to the extremity,—the remaining part being blunt but thin. If this *prostatome* be pushed along the groove of the straight staff until the blunt part is arrested by the prostate, it will sufficiently divide the neck of the bladder,—and if the operator forces it farther onwards, or even into the cavity of the bladder, no harm can result, from the blunt part of the edge merely anticipating the dilatation which must otherwise be effected by the finger.

CASE 4. James Roger, aged 27, was admitted on the 9th of May, suffering from an extreme degree of urinary irritation. The calls to make water were nearly incessant both day and night, and attended with great pain; the urine when collected, deposited a large quantity of mucus; and the patient's aspect suggested the suspicion of renal disease. These circumstances, together with the time of life, did not lead me to suspect a stone, and I was rather surprised to find one upon introducing a sound. The patient at first represented his complaint as of a few months' standing, but afterwards admitted that it had been troublesome for the last four years, and ultimately confessed that all his life he had experienced some uneasiness in regard to making water. As the operation could not be performed safely while the symptoms were so acute, I desired the patient to remain in bed and employ the ordinary soothing measures of diet and medicine; under the use of which he soon felt much easier, and the urine, though not free from mucus, became less loaded with it. At the end of a fortnight, finding the improvement stationary, I resolved to extract the stone.

On the 22d of May I made a free incision from the raphé to the hip, and then with the knife, (a common short straight bistoury,) and finger, having extended the opening through the muscles and fasciæ of the perineum, cut into the groove of the staff at the middle of the membranous portion of the urethra, and ran the blade backwards so as to divide the anterior part of the prostate; through the aperture thus made, I passed a straight staff, nine inches long, into the bladder, and withdrew the common curved one previously employed. The "prostatome" being then placed in the groove of the staff, held in my left hand, so as to raise the prostate from the rectum, was pushed steadily onwards until the blunt part impeded its farther progress. I lastly dilated the wound by means of my finger, and extracted the stone. It was nearly quite round, and measured four inches and a half in circumference; consisting of a mulberry calculus, completely enclosed by a phosphatic incrustation. There can be little doubt that the nucleus was as old as the patient. No unpleasant symptom followed the operation, and the wound contracted quickly, though still (30th June,) it allows a part of the urine to escape.

EXCISION OF THE ELBOW-JOINT.

CASE 1. John Currie, aged 18, was admitted on the 13th of June last, on account of disease in his left elbow-joint. He stated that without any assignable cause or perceptible pain, a swelling had commenced about four years before, and that three weeks after noticing it, he had applied to a bone-setter, who treated him very roughly in attempting to reduce a bone which he alleged was dislocated. Though the swelling increased and became very painful in consequence of this treatment, he submitted to its repetition twice a-week for three months; the joint upon each occasion being subjected to the most violent twisting and bending. At last, finding his complaint getting worse and worse, he applied to another bonesetter, who assured him that the bone had not been out of its place, and that he was the victim of mismanagement. Nothing was then done, and no change worthy of notice occurred until nine months before the time of admission, when a discharge of matter took place spontaneously from the joint. The elbow was much enlarged, and had entirely lost all trace of its proper form; there were several openings from which thin matter issued copiously, and through which a probe could be passed down to carious bone; the patient was much emaciated, and had a very suspicious cough. But as the most careful stethoscopic examination did not detect any evidence of pulmonary disease, it was hoped that relief from the local complaint might restore general health.

On the 28th, I performed the operation in the usual way. The articulating surfaces of all the bones were divested of cartilage and carious. They were exposed in succession, and removed by the saw, which I find preferable to the cutting pliers for this purpose. No bad symptom followed the operation; the wound healed satisfactorily, and the patient very soon began to regain his health; the cough ceased, and the other indications of a phthisical tendency disappeared. He was dismissed on the 14th of August, able to resume his occupation as a "skinner." I saw him lately, and could not have distinguished the imperfect arm, unless my attention had been directed to it.

CASE 2. Christian Hunter, aged 53, from Kelso, recommended by Dr F. Douglas, was admitted on the 10th of November. She stated that, for ten years she had complained occasionally of pain in the right elbow, stretching down to the wrist and hand, and gradually becoming more severe as well as frequent. Nine months before the time of her admission, the joint swelled to a great size, and the pain which was then incessant, suffered so much aggravation by the slightest movement, that she was obliged to keep the limb entirely at rest. An opening was made soon afterwards with the effect of discharging a large quantity of matter, and affording relief from the pain. The disease then remained stationary.

On examination, the elbow was found considerably swelled, and scarcely moveable. It could not be extended beyond a right angle, or bent, except very slightly; and the arm was almost powerless. A sinus on the outer side of the joint allowed a probe to enter the articulation. I performed the operation on the 15th of November, cutting out the articulating extremities of all the bones, which were completely carious. The soft parts being unusually sound, healed quickly; indeed, almost entirely by the first intention, so that the patient was dismissed quite well on the 18th of December. I heard soon afterwards from Dr Douglas, that on calling to see how she was doing, he had found her knitting stockings in good health, and free from any uneasiness.

Previous to 1829, the operation of cutting out the elbow-joint had not been performed in Great Britain. In that year[1] I recorded three cases of its employment, and, in 1831, I published a treatise on the subject, containing *fourteen* cases. Since that period, the operation has been established in the practice of surgery, and some credit has been generally conceded to me for my share in the introduction of this improvement. But the reviewing gentlemen of Dublin, doubtless through their morbid sensibility of Saxon injustice, have charged me with claiming more than my due, and decking myself with plumes rightfully belonging to their Surgeon-General. "Why did not Mr Syme say, Great Britain *and Ireland?* Our readers will form their own judgments, but we think it would ill become us as editors of an Irish journal, did we not secure to our fellow-countryman his just rights. Sir Philip Crampton, we repeat, performed the operation three years before Mr Syme; and his interesting paper, in the fourth volume of the *Dublin Hospital Reports*, drew general attention to the subject, four years before the appearance of Mr Syme's work."[2] Now, I beg to remind these patriotic gentlemen, that my first paper on the subject (Excision of Joints) was published in 1826,[3] while Sir P. Crampton's did not appear until 1827.[4] And, in the next place, I entreat them to notice that I never assumed any credit for originality in contriving, or priority in adopting, this operation. Excision of the elbow-joint was proposed by Mr Park of Liverpool, and performed in France by M. Moreau; also more recently by M. Roux; and in Ireland by Sir P. Crampton. But the profession had not adopted the operation. And the fact of only one case occurring in the extensive practice of the Surgeon-General, who had tried the experiment, was not calculated to remove the existing prejudice against it.

If any credit is due to me, it is for awakening the attention of the profession to the operation; enforcing its advantages by establishing them on a broader base of experience than had previously been done, and divesting its performance of some imperfections, which, in no small degree, impeded the facility of its execution, and lessened the perfection of its result. For instance, in the few cases subjected to operation before the date of my paper, no distinction had been drawn between the truly carious portion of bone, which alone requires to be removed, and the effusion of new osseous substance, which causes an irregular thickening of the bone considerably beyond the extent to which it is diseased. In consequence of thus confounding the sound and morbid parts, much more was taken away than required removal, and the cure was not only greatly protracted, but rendered much less complete than when the operation is properly performed. Instead of confining his saw to the articulating extremity of the humerus, which is the only part liable to caries, Sir P. Crampton applied it three inches above the tuberosity of the bone, so that he must have removed at least four inches of its length; and it is no wonder that at the end of seven months the patient, by a voluntary effort, could only "give a slight degree of flexion to the fore-arm."[1] If the operation had always been performed in this way, and with a similar result, do the Dublin Reviewers imagine that it would ever have been generally adopted by the profession? In taking my leave of them, I have only further to say, that though unwillingness to criticise the practice of a gentleman so distinguished as the Surgeon-General formerly restrained me from dilating upon his solitary case, I felt no desire to treat it with disregard, and thus concluded my paper of 1829: "The almost forgotten operations of Moreau will now perhaps be reconsidered, and the recent case of Mr Crampton, together with those now submitted to the public, will, I hope, make such a deep impression on the profession, as may induce practitioners to pause before they mutilate a fellow-creature by amputating his arm for disease or injury of the elbow-joint."

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[1] Ed. Med. and Surg. Journal, 1829.

[2] Dublin Medical Journal, 1842.

[3] Ed. Med. and Surg. Journal, July 1826.

[4] Dublin Hospital Reports, vol. iv.

AMPUTATION AT THE ANKLE-JOINT.

It may seem a startling, but it is nevertheless a true statement, that amputation at the ankle-joint, with hardly any exceptions, may, and ought to supersede amputation of the leg below the knee. In order to establish this position, it is necessary to show, in the first place, that the stump which results from the former operation is fit for the duties required of it; and, secondly, that the patient may, under the various circumstances concerned, be relieved as effectually in the one way as the other.

The idea of amputating at the ankle-joint is not new, the operation having been performed on the Continent by different surgeons before I thought of it; and it would probably ere now have become generally adopted, but for the doubt that was entertained as to the ends of the bones being sufficiently covered to afford the patient a comfortable and useful support for the limb. For my own part, when I read of dissecting flaps of skin from the instep, or sides of the foot, I felt so much distrust in the protection that could thus be effected against the injurious effects of pressure on a part so exposed to it, that I had no desire to try the experiment. But it occurred to me that by performing the operation in a different way all such objections might be obviated. This was to save a flap from the sole of the foot and thick integuments of the heel, by making a transverse incision, and dissecting these parts from the *os calcis*, so that the dense textures provided by nature for supporting the weight of the body, might be still employed for the same purpose. Two trials of this operation having proved satisfactory, I communicated them to the profession, and am glad to find that not only my colleagues in the hospital here, but also practitioners in other places have already acted upon this recommendation. The additional experience of my own practice now enables me to suggest some improvements in the mode of procedure—point out an error to be avoided—and verify the expectation formerly expressed as to amputation of the leg being hardly ever required.

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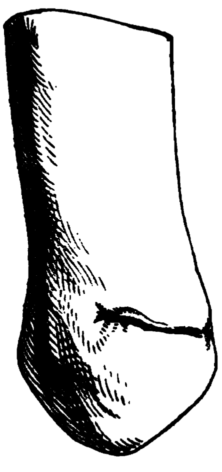
[1] Loc. cit.

The best instrument for performing the operation, is a large bistoury, or small amputating knife with a blade about four inches long. There is no occasion for a tourniquet, as the assistant has complete command of the vessels by grasping the ankle. In my first operations, the flap was made unnecessarily long;. and I feel confident that the following directions may be trusted for exactly determining its proper extent. The incisions across the instep and sole of the foot should be curved, with the convexity forwards, and exactly opposite each other. A line drawn round the foot mid-way between the head of the fifth metatarsal bone and the malleolus externus will show their extent anteriorly, and they should meet a little way farther back, opposite the malleolar projections of the tibia and fibula. Care should be taken to avoid cutting the posterior tibial artery before it divides into the plantar branches, as in two cases where I did so, there was partial sloughing of the flap. If the ankle-joint is sound, the malleolar processes should be removed by cutting pliers; but if the articulating surfaces of the tibia and fibula be diseased, a thin slice of these bones should be sawn off. The edges of the wound



should be stitched together, and lightly dressed. When the cure is completed, the stump has the shape here represented, being conical in form, and having for its apex, or central point of pressure, the thick integument which covered the heel.

In proceeding to consider the circumstances in which this operation may be performed, it seems worthy of notice, that until a recent period, amputation of the leg was in this country generally resorted to for the removal of diseased bone, when the part affected extended upwards beyond the metatarsus. The operation of Chopart might frequently have accomplished all that was requisite, but unfortunately laboured under a prejudice which opposed its adoption. This was, that the extensors of the heel, being deprived of antagonizing action, would point the stump downwards, so as to render it useless as a support for the body. In 1829, for reasons elsewhere stated,[1] though there was no precedent for its performance in Edinburgh, I ventured upon this partial amputation of the foot, in a case where removal of the leg had been proposed, with perfect success, and without the slightest inconvenience of the kind anticipated. Encouraged by this result, I resolved to adopt the operation; and before long performed it six times with entire satisfaction. Since that time the operation has been established here, and regularly practised in cases admitting of its application.

Although the introduction of Chopart's operation considerably abridged the field for amputating the leg, there were still two situations in which caries frequently occurs, where it was beyond the reach of any partial removal of the foot. These were the joint between the astragalus and os calcis, and the ankle-joint itself. In the former of these situations, the diseased bone is so near the fibular side of the heel, that it is apt to seem within reach of the gouge or other means of extirpation; and attempts have often been made to effect this, but seldom if ever with success, owing to the caries extending along the complicated articulating surfaces of the bones affected. I have succeeded in such a case, by making a fair breach through the foot from side to side, and passing a thick seton, which could be made the vehicle of red precipitate and other escharotics; but even this treatment cannot be depended upon, and its failure, in a case where I had ventured to indulge hopes of success, led me to think of contriving a method of amputating at the ankle-joint which might afford relief under such circumstances, and afford the patient a comfortable stump. In the case of John Wood, formerly related,[2] the disease was thus situated, between the astragalus and os calcis. Soon after that case had terminated favourably, I met with another related in the same paper, where the ankle-joint itself was affected; and did not hesitate to repeat the operation. The gentleman who was the subject of it, though long in very indifferent health from other causes, now walks with ease and comfort.

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[1] Ed. Med. and Surg. Journ., Oct. 1829. [2] MONTHLY JOURNAL, February 1843.

Compound dislocation of the ankle-joint, either with or without that curious displacement of the astragalus which results from falling with great force on the heel, was formerly held to require amputation of the leg. The authority of Sir A. Cooper's experience encouraged attempts to preserve the limb in such cases; and in private practice both forms of the injury are now frequently conducted to a successful issue, though in general through a protracted process of recovery. But it must be admitted, that many lives have been lost, especially in hospitals, from trying to retain the limb. In the Royal Infirmary, I find that of 13 patients who had suffered compound dislocation of the ankle, and were not subjected to amputation, only 2 recovered; and even in the event of recovery the foot generally remains in such a state of stiffness, weakness, and sensibility of external impressions, as to be rather an encumbrance than a support to the patient. Now, all this danger, tedious confinement, and permanent discomfort might be obviated by amputating the foot in the first instance. So long as the only alternatives were attempting to preserve the limb; and amputation of the leg, there was a strong inducement to abstain from operating. But if the patient's safety and speedy recovery may be ensured by taking away merely that part of the limb which at the best can hardly be of any value either as to use or ornament,—and at the same time producing a stump in all respects preferable to a shattered, stiff, irritable foot, I think there should be little hesitation in resorting to amputation at the ankle-joint under the circumstances in question. I would certainly have done so in the following case, had I not been in the country on the day of the patient's admission.

CASE 1. John Cameron, aged 54, was admitted on the 11th November, having on the morning of that day fallen from a height of about twenty feet into the hollow of a gasometer. There was a large rent in the instep of his right foot, through which the articulating surface of the astragalus protruded. It was replaced without any difficulty, and the edges of the wound were brought together. He did very well for a few days, but then became feverish, and complained of pain in the limb, which had become much swelled. Incisions were made with the effect of discharging matter and affording relief. He continued pretty well until the 25th, when he had a rigor followed by increase of fever. On the 31st he had another rigor, and his pulse, which had previously ranged from 90 to 100, increased to 120. On the 2nd December, as a forlorn hope, I amputated the foot at the ankle-joint. As the malleolus internus was fractured, and the articulating surfaces of the tibia and fibula divested of cartilage, I sawed off a slice of both bones. The patient improved daily after the operation, and though recovery was delayed by the unhealthy state of the leg, in which diffused suppuration repeatedly took place, the stump had cicatrized completely on the 15th January. All who witnessed this case were persuaded that amputation of the leg would have proved fatal if performed at the time the foot was removed.

When the anterior part of the foot is destroyed by violence or exposure to cold, the remaining soft parts may be employed in different ways to afford a covering for the bones. It was for such occasions that Chopart contrived his operation, which, from its proximity to the ankle has hitherto been considered the last resource, short of amputating the leg. This severe measure would have been deemed necessary in the following case, according to the established rules of practice.

CASE 2. James Sutherland, aged 25, from Shetland, was admitted on the 25th of September. He stated that four months before, in consequence of exposure to cold, his left foot suffered from mortification; nearly the whole of it had separated, so that only the astragalus and os calcis with the integuments covering them, remained. The anterior articulating surfaces of these bones were quite denuded, and it was evident that the formation of a cicatrix over them was not to be expected through any length of time or attention in treatment. But as the soft parts, though not more than sufficient for the ankle-joint amputation, seemed adequate for the purpose, I resolved to attempt the patient's relief in this way.

I performed the operation on the 3d October, taking away no part of the integument except what was requisite to give the flaps a proper form. The wound healed by the first intention, and before the end of the fourth week the patient was able to walk through the wards with a common shoe, so that the defect of his limb could hardly be noticed.

In describing the operation, I have said that care must be taken to avoid cutting the posterior tibial artery before it divides into the plantar branches; and I may now explain more particularly the ground on which this advice is founded.

CASE 3. Elizabeth Wilson, aged 7, from Dalkeith, recommended by Dr Hunter, was admitted on the 19th of February, on account of disease in her left ankle. It had become swelled and painful about sixteen months before, without any known reason. Matter speedily formed, and was discharged spontaneously by several openings, which did not afterwards heal. The foot was much enlarged, stiff, and shapeless; and two sinuses allowed a probe to pass into carious bone.

On the 21st, I proceeded to amputate at the ankle-joint, but finding that anchylosis had taken place between the articulating surfaces, I exposed the extremities of the tibia and fibula, and sawed them through, without previously removing the foot as usual. In tying the vessels, it appeared that the posterior tibial artery had been divided before its division into the plantar branches, so that one ligature sufficed in place of two. The stump looked remarkably well, and was expected to prove a very favourable result of the operation. It was therefore with much surprise, and no small disappointment, that in the course of a few days I saw the flap had sloughed, through fully a half of its extent. Recovery was consequently delayed much beyond the ordinary period, and the patient did not leave the hospital until the 31st of March. The stump at length, though not so full and cushion-like as usual, cicatrized by contraction of the integuments, without leaving any part of the bone uncovered.

I attributed the sloughing in this case to the undue pressure of a bandage; and having occasion soon afterwards to perform the operation on a patient in Minto House, intentionally divided the posterior tibial before its division, in order to obtain the same facility in tying the vessel as on the last occasion. To my surprise and concern, the flap again sloughed to the same extent as in the case just related, and as great attention had been paid to dressing the stump, I could not refer this effect to the cause formerly supposed. But, as on both occasions the artery had been cut before its division, while in all the other cases it had been left entire, and as the flap at best, being deprived of nourishment from most of its ordinary sources, could be chiefly supplied with blood only through the successive anastomoses of small vessels, I concluded that this deviation from usual practice had led to the mischief in question, and resolved to avoid it for the future.

Case 4. Robert Craig, aged 10, from Dunbar, recommended by Mr Turnbull, was admitted on the 3d of June, on account of disease in his right foot. It was stated that three months before, after severe rigors, inflammation had commenced, and been speedily followed by the formation of matter. A succession of abscesses then formed, and gave rise to a number of sinuses opening in different parts of the instep and sides of the foot, and allowing a probe to enter carious bone. The general health had latterly been much impaired.

I amputated the foot on the 5th, taking care to avoid cutting the posterior tibial artery. The wound healed chiefly by the first intention, and the boy is already almost quite well.

It has now been ascertained that amputation at the ankle-joint may be performed so as to afford a stump in every respect convenient and comfortable, retaining the full use of the knee-joint, and enabling the patient to walk with perfect freedom. It has also been shown that by means of this operation caries of the upper range of the tarsus, of the joint between the os calcis and astragalus, and of the ankle-joint itself may be removed; while compound dislocation of the ankle, and destruction of the foot beyond the extent admitting of Chopart's operation, may also be remedied by it. But what other occasion besides these is therefor amputating the leg? Malignant tumours of the tibia and fibula require amputation of the thigh, and compound fractures of the leg, so severe as to demand removal of the limb, hardly admit of the operation being performed below the knee, on account of the soft parts so near the seat of injury being unfit for healing action. The cases, therefore, if any, must be very few. In my own practice, since adopting amputation at the ankle-joint, I have removed only one leg below the knee, under very peculiar circumstances, which did not permit the milder measure to be adopted.

In conclusion, it may be remarked, that the advantages of amputation at the ankle-joint, as compared with amputation of the leg, are not limited to the smaller degree of mutilation and greater utility of the limb; since the operation is also attended with much less danger. This will appear when it is considered, 1*st*, How much less the shock must be, from the small extent of parts removed, which is little more than in Chopart's partial section of the foot. 2*d*, That the smallness of the arteries divided prevents any risk of serious hemorrhage. 3*d*, That the cancellated texture of the bone exposed is not liable to exfoliate. 4*th*, That from the medullary canal remaining entire, inflammation of its contents, and also of the veins is prevented.

In confirmation of these grounds for favourable expectations as to the diminution of danger, I am now able to add the proof of experience, since in fourteen cases where the operation has been performed, eight in my own practice, and six in that of others, there is not one fatal result.

(*To be continued.*)

ARTICLE II.—*Some Remarks on Bronchocele or Goître. By* BEVERLEY R. MORRIS, A.B., M.D. *of Trinity College, Dublin, Physician to the York Dispensary.*

This unsightly disease has at all times excited a considerable share of attention, and its origin has been attributed to the action of numerous causes. It is not my intention to enter upon a detail of these causes, (as they may be gathered from any book on the practice of physic,) but shortly to notice what I believe may be considered as a not unfrequent exciting cause of the disease. I believe that we shall generally find bronchocele to be developed in persons of a strumous diathesis, and many of the circumstances under which it has arisen, tend to favour this conclusion; among these I may mention its great prevalence in certain parts of North America before it was cleared of its woods, and its entire disappearance after their removal. This change, so favourable to a free circulation of air, could not but act strongly in improving the tone of the system generally, which must be greatly relaxed and weakened by a constant residence in the damp and close atmosphere of the dense primeval forests of that country. Certainly in this country, a large number of the cases of this disease occur in those with fair skin, and other indications of a strumous habit.

The disease to which I would call attention as an occasional cause of goître, is rheumatism; and though the rheumatic and strumous diathesis cannot be considered as identical, yet there are points of similitude between them, and they are both occasionally developed in the same individual. Indeed, in the three cases which I now bring forward, there were evident marks of the existence of a strumous diathesis.

The first case is interesting also, in another point of view, viz., as exhibiting the constitutional effect of iodine when it was only applied externally. The possibility of this has been denied by some writers, but I have observed its occurrence in numerous cases where the application was continued for any protracted time.

Case 1. *August* 10, 1842. Mr R—— aged 45, consulted me for a swelling in his neck, which he attributed to an over-exertion of the organs of voice. The tumour has been coming on for several months, and now gives him, at times, a good deal of pain, both fixed, and lancinating, when swallowing. There is no discoloration. The tumour extends from a little above the thyroid cartilage on the left side to the clavicle; it is oblong, being about an inch and a-half wide, and of the length described. It is rather firm, smooth, and elastic. I found that he had for many years been subject to rheumatism, chiefly of the hands, but also of the back part of the scalp and neck. On questioning him closely, I found that the rheumatism had left his hands suddenly when the tumour in the neck first appeared. May not this be rheumatic thyroiditis? The general health and appetite are good; the tongue is clean; the bowels are regular. He has a greatly enlarged prostate gland, which sometimes interferes with the passage of the urine, but is not troublesome at present; he has been under treatment for it, but only with temporary benefit. I only ordered half a drachm of hydriodate of potass in an ounce of soap liniment, to be rubbed into the tumour every night.

Nov. 2. He has continued very steadily using the liniment, but has occasionally been obliged to omit it for a day or two, as it, (particularly at first,) caused a good neal of nervous irritability, and swimming of the head. The tumour in the neck has almost entirely disappeared; and the enlargement of the prostate gland is very greatly lessened, so much so, that he now feels no inconvenience at all from it.

He continued to use the liniment up to the end of the month, when being entirely cured, it was discontinued.

Case 2. *Sept.* 18, 1842.—Mrs W—— aged 31, ill ten years, has a bronchocele involving the whole of the thyroid gland. It extends on each side to the angle of the jaw, and is very prominent over the thyroid cartilage, but does not descend much below it. It is firm, and of even texture; she traces its first appearance to a rheumatic metastasis. She is of a decidedly scrofulous habit. About the time of its appearance she was worked rather hard as a dairy-maid. It has always been much larger during attacks of rheumatism, to which she has been very subject. The other glandular structures appear healthy; the general health is good.—*R. potassæ hydriodatis* ʒss, *linimenti saponis* ℥j. *M. Fiat linimentum, tumori semel in die applicandum.*

Nov. 17. She has derived very considerable benefit. The tumour is smaller and softer; the skin over it is much wrinkled.—*Pergat.*

CASE 3. *January* 30, 1843.—Mrs S——, aged 44, ill four months. There is a general swelling of the thyroid gland to some extent. She says it enlarges most at the catamenial periods, and when an attack of asthma comes on, to which she is very subject; she has had repeated attacks of rheumatism, but cannot trace the disease to that cause.—*Ordered iodine internally as well as externally.*

Though in this case the connection between the rheumatism and the enlargement of the thyroid gland was not traced, yet I introduce it because of their co-existence.

Cases bearing upon this question might be easily multiplied, but I trust those I have brought forward may be thought sufficient to prove the position I have laid down; and to possess enough of interest to induce others to turn their attention towards the subject of rheumatism as an occasional exciting cause of goître.

YORK, June 1844.

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ARTICLE III.—*On the Irritability of the Muscular Fibre in Paralytic Limbs.* *By* MARSHALL HALL, M.D., F.R.S., &c.

The readers of the MONTHLY JOURNAL may probably remember my remarks on the condition of the muscular fibre in paralytic limbs, and the general application of the principle developed in them, to the diagnosis of cerebral and spinal paralysis in general, and to the explanation of the influence of emotion, and of strychnine in paralytic limbs.

Several weeks ago, a paragraph in Dr Pereira's work on Materia Medica, at variance with my statements, was pointed out to me by a friend; and a few days ago, Dr Todd observed to me that he had met with results, similar to those of Dr Pereira, at King's College Hospital.

Dr Pereira's paragraph I subjoin:—

"*What is the reason that strychnia first displays its remarkable influence on paralytic limbs?*"

"Dr Marshall Hall[1] has advanced a most ingenious explanation of the above-mentioned fact. Strychnia, he asserts, does not, in every case of paralysis, first display its influence on the paralytic limb. When the paralysis is cerebral, the irritability of the muscular fibre becomes augmented, from want of the application of the stimulus of volition; and in such cases, therefore, strychnia first affects the paralysed muscles, because these are more irritable than the sound ones. But in spinal paralysis, the irritability is diminished, and in such strychnia does not firstly and mostly affect the paralysed limbs. The augmented irritability of the muscles in cerebral paralysis, and the diminished irritability in spinal paralysis, he ascertained by voltaic electricity.

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[1] Med.-Chir. Trans., second series, vol. iv.

" This explanation appeared to me so plausible and satisfactory, that in the first edition of this work, (pp. 911, 912,) I adopted it, believing it to present a clear and physiological elucidation of the facts before related. But in the summer of 1841, I made a number of observations on paralytic patients in the London Hospital, which convinced me that it does not correctly interpret the phenomemon in question. The following is a brief abstract of one case, out of many similar ones:—

" A middle-aged man was admitted into the hospital, suffering with hemiplegia of two years' standing, and the consequence of apoplexy. He was put under the influence of the alcoholic extract of nux vomica. In a few days the muscles of the paralysed limbs were powerfully affected by the remedy, but those of the sound side were unaffected by it. I then resolved to try the effects of voltaic electricity on the paralysed and healthy muscles. For this purpose I directed each hand to be placed in a separate basin, containing a solution of salt. The two basins were then respectively connected with the electrodes of a magneto-electric-machine, and a current of electricity thus simultaneously traversed the paralysed and healthy arms. To my great surprise, the muscles of the paralysed arm were comparatively but slightly affected, while those of the sound one were most powerfully convulsed. This experiment was tried repeatedly, and invariably with the same result.

" In this case, the paralysis was undoubtedly, I think, cerebral. On Dr Hall's hypothesis, the effects of strychnia on the paralysed limbs proved it to be so. Yet the paralysed muscles were less irritable than the sound ones, as manifested by voltaic electricity. I have observed the same effects in many other cases. Furthermore, I may remark, that in every case of paralysis, whether cerebral or spinal, I have found the muscles of the paralysed parts to be less irritable to voltaic electricity than those of the sound part. Nor have I met with a single exception to the statement, that strychnia first displays its effects on the paralysed parts,—a fact of which I cannot at present offer a satisfactory explanation."[1]

It is not my intention to enter into any controversy on this subject. The question being one of fact, of physiological and pathological science, and of the action of an important remedy, the appeal must be to new experiment. It is an important question, because it involves an important practical application.

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[1] Elements of Materia Medica and Therapeutics, second edition, vol. ii. p. 1300.

The simplest plan for me to pursue, as it appeared to me, was to repeat my observations, though these were made too frequently, and in too varied a manner in the first instance, to allow me to doubt of their accuracy. But it struck me, that by their repetition, I might not only confirm or correct my former statements, but detect the source of the discrepancy between Drs Pereira and Todd, and myself; and I believe I have done so.

I galvanised the two arms of a hemiplegic patient, a young person kindly sent to me by Mr Hutchinson of Farringdon Street, three several times, in the presence of Mr H. Smith, Dr Heming, Mr Burford, and Mr Sherwood; the muscles of the paralytic arm were made to contract forcibly, by a number of plates, which had no perceptible effect on the healthy arm; and if the number of plates was augmented, within certain limits, the difference of effect was still the same.

I repeated the experiment on the arm and leg of another hemiplegic patient; the result was the same.

How then are these results, apparently so opposed, to be reconciled? Before I proceed to reply to this question, let me observe that I galvanized at the same time the two hands of a patient affected with paralysis of the extensors of the right hand, from the *blight* induced by exposure to a keen north-east wind; in this case, the muscles of the paralysed hand were *less* affected than those of the healthy hand.

1. In the first detail of my experiments, I stated that I used the *smallest* degree of galvanic influence which would produce an unequivocal result.

It is obvious that if this precaution be not adopted,—that if a degree of galvanic power be employed which will affect the sensations of the patient, and especially if such a force be used as will affect the sensations painfully, and with the sensations, the timidity,—muscular contractions will be induced in the unaffected limb, which will far exceed those induced by the mere action of the galvanic influence on the muscular fibre, however its irritability may be augmented.

2. In the choice of cases, I selected those in which the paralysis was very decided. In hemiplegia, the arm is usually much more affected than the face or the leg. It is, therefore, by comparing the irritability of the muscles in the two arms, in cases of decided paralysis, that the result obtained is most distinct. It requires great care, if we would compare the two sides of the face, or the two legs: the sensibility in the former case, and the slighter difference in power, with the constant *use* of the paralytic limb, which

diminishes its irritability, in the latter, render the experiment less marked.

If these precautions had not been adopted, no *exact* result could be obtained; and I may here remark, that Dr Pereira did not even employ the same instrument as that which I had used, and mentioned in my former publication. Mine was a common galvanic trough. Dr Pereira used a " magneto-electric machine." I used the smallest degree of this influence which could produce an unequivocal result. No such precautions were, as far as I can learn, taken by Dr Pereira. Our experiments, then, are *not the same*. I used pure water. Dr Pereira used a " solution of salt," for what reason I cannot imagine, unless it were, to make his experiment *different* from mine.

Dr Pereira observes, that in *all* cases of paralysis, the strychnine induces its effects first, and most on the paralytic limbs. Now this statement is at variance with all experiment and all physiology. Strychnine acts through the medium of the spinal marrow. The presence of this organ is essential to the action of this powerful agent. How can the effects of strychnine, then, be seen in *spinal* paralysis?

The truth is, that care was not taken, in the first instance, to exclude the influence of sensation and volition, or emotion—to limit the effect to the irritability of the muscular fibre; and in the second, the diagnosis between cerebral and spinal paralysis was not carefully or accurately made. Doubt and confusion have been the natural and inevitable result.

The application of the principle to which I have thus adverted once more, to the diagnosis of the different forms of paralysis, is of the utmost interest, and has been only partially made. In this manner, hemiplegia of the face and paralysis of the facial nerve, and similar states of the hand, arm, and leg, are distinguished at once; but the *test* must be applied with a care and precaution far greater than those which appear to have been adopted in the observations on which I have animadverted.

But I must notice a little more particularly the concluding part of Dr Pereira's observations.

Having stated,—" In every case of paralysis, whether cerebral or spinal, I have found the muscles of the paralyzed parts to be less irritable to voltaic electricity than those of the sound part,"—he adds, " nor have I met with a single exception to the statement, that strychnia first displays its effects on the paralyzed parts, a fact of which I cannot at present offer a satisfactory explanation."[1] Now this latter observation is not, as Dr Pereira seems to think, limited to the question of the irritability of the muscles of paralytic limbs. It involves that of the organ on which the influence of strychnine first takes place, and Dr Pereira's conclusion is at variance with his own opinions, detailed on the previous page, in which I entirely concur. I quote Dr Pereira's words, "*On what part of the body does nux vomica exercise a specific effect?* The symptoms clearly indicate the nervous system to be specifically affected; and as the voluntary muscles are supplied with nervous influence from the cerebro-spinal portion of the nervous system, it is presumed that it is on this portion that nux vomica exerts its principal or sole influence. Physiologists, however, have endeavoured to ascertain what part of the cerebro-spinal system was principally affected. Now the tetanic symptoms, and the absence of narcotism, have led to the conclusion, that the spinal cord was the seat of the disease—a conclusion supported by the fact, that the division of this cord, nay, even complete decollation, will not prevent the poisonous effects of nux vomica; whereas the destruction of the cord, by the introduction of a piece of whalebone into the spinal canal, causes the immediate cessation of the convulsions; and if only part of the cord be destroyed, the convulsions cease in that part of the body only which is supplied with nerves from the portion of medulla destroyed. These facts, then, originally observed by Magendie, and which I have myself verified, lead to the conclusion, that the abnormal influence, whatever it may be, which causes the convulsions to take place, is not derived from the contents of the cranium, but from the medulla spinalis itself. Moreover, as the motor nerves seem principally affected, it has been presumed that the disorder is seated in the anterior columns of the cord; but the white fibres of the nervous system are merely the conductors of nervous power, the grey matter being apparently the source of it. Hence, then, the seat of operation of nux vomica is the seat of the reflex functions."[1]

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[1] Op. cit. p. 1301.

Now, as cerebral paralysis is that which excludes the influence of the cerebrum, so spinal paralysis is that which excludes the influence of the spinal marrow, the organ on which strychnine acts exclusively. How can "strychnine first display its effects on the paralyzed parts" in such a case? It is impossible. And not only is it impossible that the effects of strychnine can be *first* displayed on these paralyzed parts, but it is impossible that they can be displayed in them *at all.*

It is perfectly true, that "the seat of the operation of nux vomica is the seat of the reflex actions;" and in all cases of spinal paralysis, both these phenomena cease together—the strychnine is inoperative, the reflex actions are extinct.

P.S.—I have taken the opportunity of addressing a hemiplegic patient to Dr Pereira and Dr Todd. If these gentlemen will carefully galvanize the two sides of the face, especially the two orbiculares, the two arms, and the two legs, with all the precautions which I have pointed out, that is, with the *lowest* power which will induce a perceptible effect, and so avoiding the complication of muscular action with the effect of sensation, emotion, volition,—wincing, in a word, they will not fail to perceive, that the paralytic muscles have a higher degree of irritability than those of the unaffected side.

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[1] Op. cit., p. 1298.

Amongst other precautions, the patient must be made to fix her eyes on some object, whilst the influence of a very slight galvanic power is observed on the muscles of the eye-lids. It is in the face that the effect of galvanism on the muscular fibre is particularly apt to be complicated with wincing.

The most unequivocal experiment is that made on the arm, because the paralytic seizure is, in general, most displayed in this part. The difference in the degree of irritability of the muscular fibre in the two legs is less marked, because the paralytic weakness is also, in general, less considerable.

MANCHESTER SQUARE, July 1844.

ARTICLE IV.—*Clinical Contributions to Pathology, Therapeutics, and Forensic Medicine. By* JOHN ROSE CORMACK, M.D. Edin., F.R.S.E., *Physician to the Royal Infirmary of Edinburgh, and Lecturer on Forensic Medicine.* (With three plates.)

INTRODUCTORY NOTICE.

The CLINICAL CONTRIBUTIONS which it is my intention to publish at intervals in THE MONTHLY JOURNAL, will consist of the statement of facts, accompanied by some remarks, which will, in general, be practical and brief.

No. I.—INTRA-UTERINE CYSTOUS DISEASE OF THE KIDNEY.

The various intra-uterine diseases of the kidney, described by authors have been thus arranged by Dr Roberts in his valuable monograph on diseases of the fœtus, contained in the *American Journal of the Medical Sciences* :—

1. Ramollissement.
2. Calculus.
3. Encysted, or Hydatid condition.
4. Granularity.
5. Inflammation, and,
6. Icteric discoloration.

Many of the errors and deficiencies of this classification, will, I think, strike the reader during his perusal of the sequel; but it is only to the third division that I propose to direct special attention at present. Dr Roberts' classification will soon, doubtless, receive that revision and improvement from systematic authors which it requires.

Under the general head of encysted or hydatid condition of the kidney, he has obviously included morbid alterations which differ essentially in their origin, and are in their nature quite distinct from one another. This will be made sufficiently clear by a perusal of the cases to be detailed in this paper.

Renal cysts in the fœtus, as in the adult, are, at least, of three kinds:—

1. Hydatid cysts.
2. Cystous disease *from* obstruction of uriniferous vessels, and,
3. Do. do. *without* obstruction of uriniferous vessels.

1. *Hydatid cysts.*—Hydatid cysts, which may be described as fine membranous detached bags, are by no means rarely met with in the kidney of the fœtus. It will not be disputed by any one that their production in the kidney constitutes a distinct kind of cystous disease. Whether hydatids really are entozoa or not, they at all events possess physical characters which sufficiently distinguish them from other encysted tumours. The kidney in the adult, as is well known, is very commonly infested in its substance, and on its surface, with this kind of cystous disease.

I think that the following case of cysts in the fœtal kidney ought to be included under this head.

CASE 1. *Hydatidous kidneys in the mature fœtus—Dystocia.*—"Dr Oesterlen of Murrhardt, in Wurtemberg, was called to a patient in labour, whose delivery was retarded by the extraordinary size of the child's abdomen; but before his arrival, a female fœtus was expelled, still-born, by the natural efforts. It appeared to have reached the full period; its weight was nine pounds; and that of the placenta, which appeared healthy, was two pounds. On opening the enormously large abdomen, scarcely any thing was to be seen but two large bodies, which were situated one at each side of the cavity, and had forced the liver up close under the diaphragm, so that only a small part of it was visible. The two bodies were ascertained to be the kidneys; they resembled each other exactly in size, structure, colour, and form; their shape was natural, and they were both divided into lobules as is usual in the fœtus; they each weighed nine ounces, were about five inches and a-half long, and four inches broad at their broadest part; they were smooth on their surface, of a red colour, in parts verging towards violet, and studded every where with little granules of a dark blue or grey colour. These little bodies were hydatids, which, on dividing each kidney, were seen to occupy the whole of its substance. The smallest hydatids presented a diameter of less than a quarter of a line, the largest of about two lines, but the average diameter was about a line. The smallest were near the surface, and they became larger towards the centre of the organ. Their form was spherical, and they were perfectly transparent. *The pelvis of each kidney was small, and contained a little clear watery fluid.* The only remains of the true parenchyma of the organ, consisted of a firm, fibrous, reddish tissue, which was by no means abundant. The kidneys were well supplied with blood. The bladder contained only a few drops of a perfectly limpid fluid. All the other organs of the body were natural."—*Neue Zeitschrift für Geburtskunde,* Band. viii, s. 384., *as quoted in the Brit. and For. Med. Review for Jan.* 1844, p. 227.

2. *Cystous disease from obstruction of uriniferous vessels.*—Cysts of this description form first in the centre; and when sufficient time is afforded, they encroach upon, and destroy every part of the organ. The mechanism of their formation is at once

simple and interesting. Both in intra-uterine and extra-uterine life, obstruction of the ureter occasionally takes place; in some instances from adhesive inflammation of the sides of the tube, and in others, from its being blocked up by calculous matter. In the fœtus, malformation may perhaps be regarded as an additional cause. An accumulation of urine is occasioned beyond the obstruction, and a consequent distension of the canal as it increases in quantity. This distension soon extends into the pelvis, infundibula, and calices, all of which, in their order, become gradually dilated. "The compressed cones," says Cruveilhier, "of the tubular substance become effaced and atrophied, so that a cavity takes the place of the projecting papillæ. The cortical substance, being in its turn compressed, yields, and like the tubular, is converted into the fibrous tissue. In this way, each one of the tubular and cortical structures is soon changed into a fibrous pouch, which forms a sequel to the dilated calices, and constitutes the bottom, as it were, of the pyriform cavity which they represent." This kind of alteration may, (from the seat of the obstruction,) be confined to a group of calices and lobules, or to a single lobule; and when this is the case, a good demonstration is given of the individual independence of the cones constituting the kidney. Most of our good museums afford examples of kidneys with perfectly healthy cones by the side of those which have been transformed in the manner just described. In such circumstances, however, they are more or less compressed by the adjoining distended cones.

The fluid contained in the cysts which are formed in consequence of obstruction of uriniferous vessels, has generally been found, in the cases in which it has been examined, to possess some of the properties of urine, even when the whole kidney *seemed* to be transformed into a cyst or cysts. In such cases, as Cruveilhier remarks, there must be some remains of renal tissue. He says, that he has frequently seen vestiges of it between two thin fibrous layers constituting the walls of the cysts. It is not correct to suppose that such changes only occur in extra-uterine life. The fœtal kidney, it must be remembered, secretes urine, at least during the three last months of utero-gestation.

Subjoined are the most satisfactory of the recorded cases of that form of congenital cystous disease of the kidney which has now been described. They are sufficiently numerous to illustrate the subject.

CASE 2. *An eight-month still-born and deformed fœtus—Impervious ureters—Both kidneys converted into immense cysts—Urea found in the fluid within the kidney—Dystocia.*—On the 2d of January 1835, Mr Hay of Osnaburgh Street attended a patient who was delivered in the eighth month of a still-born female child, with a double hare lip, both its feet clubbed, and the abdomen so large that it passed with difficulty through the pelvis. This arose from an accumulation of fluid within the kidneys, produced by *an impervious state of the ureters*. Both kidneys were presented to Dr Lee without the fluid they contained having escaped. The right kidney resembled a thin cyst, and was larger than the head of the child: the left did not exceed half this bulk.

The right contained nine, and the left four ounces of a fluid, stated by Dr Prout, to be like diluted porter or table beer, transparent, without any remarkable smell, albuminous, slightly acid, and containing distinct traces of urea.—*Abridged from Dr Lee's paper on the functions of the Fœtal Kidney, in the Med.-Chir. Trans.*, vol. xix., pp. 239–241.

Case 3. *An eight-month fœtus—Imperforate urethra—Conversion of the kidney into a congeries of cysts.*—In October 1810, Mr Howship was requested by his friend Dr Merrimann, to open the body of a male infant, born alive in the eighth month; it languished apparently in pain, and died the same evening.

"The feet were distorted, the anus imperforate, and the lower part of the abdomen occupied by a large circumscribed tumour. Dividing the parietes, this tumour protruded, white, elastic, and filled with a fluid. On each side of this tumour was a long membranous tube, large as the finger, and curiously contorted; these, also, were evidently filled with a fluid. The central cyst was comparatively dense, firm, and opaque; the convoluted tubes much thinner, and nearly transparent. The tubes terminated above, on each side the loins, in what appeared to be a mass of small hydatids;[1] below they passed into the pelvis, with the principal tumour. These parts engrossed nearly the whole cavity of the abdomen; the other viscera forming a very small proportion of its contents. These singular appearances were produced by the bladder, ureters, and kidneys having been subjected to the effects of excessive distension, from accumulation of urine. The parts were removed; but before this could be done, it was found necessary to puncture the bladder, when a jet of clear limpid urine sprung forth with violence. The kidneys, ureters, bladder, and urethra, were then dissected out, and the difficulty cleared up, by examining the urethra. On passing a large bristle from the external orifice, half an inch along the canal, *it was found to be imperforate;* and by introducing a fine silver probe in the opposite direction, into the urethra, from the cavity of the bladder, it appeared that the canal was impervious for the extent of a quarter of an inch. The quantity of urine contained in the bladder alone, was at least seven or eight ounces. The coats of the bladder had attained a very extraordinary degree of strength and thickness, probably to resist distension. It had, notwithstanding, given way posteriorly, where a large pouch or cyst was formed. The convoluted appearance of the ureters was as remarkable as their great increase in magnitude. The kidneys resembled a congeries of small hydatids, no larger than garden peas, loosely connected together by a cellular texture. There was no visible remains of, nor any appearance at all, resembling the natural structure of the kidneys; yet, from considering the appearances, it was clear, in my opinion, they must have continued to secrete urine, till the infant died; an event probably consequent to continued pain and irritation from the state in which the urinary organs were found on dissection. This singular preparation is preserved in Mr Heaviside's museum."[2]—*Howship on Urinary Diseases*, p. 374. London: 1823.

Case 4. *Congenital (?) obstruction of the ureter, causing cystous transformation—Granular disease—Death at the age of four months.*—This case is detailed by Mr Thurnam. I give part of the history in his own words. "It appeared that at birth a tumefaction of the lower part of the abdomen had been noticed, especially on the right side, and that this swelling had been accompanied by a distinct throbbing. The mother described the swelling as looking like 'two or three bladders.' He did not pass any urine until the third day after birth, and not until warm fomentations had been employed; afterwards, he passed it freely, and this secretion looked perfectly natural. He, however, appeared to be in constant pain, and was always crying, except when dandled or asleep. His mother occasionally used to rub the abdomen, with the view of relieving his pain; and she noticed that whilst doing so, the bladder would swell, and rise up under the hand, to the size of a large egg. With the exception of a gradual wasting, the general health of the child would appear to have been pretty good up to a few days of his death, when the mouth became sore, and the motions unhealthy in appearance. He died at the age of four months.

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[1] Mr Howship evidently uses the term hydatid in that unrestricted sense, in which it was formerly applied to all descriptions of cysts.

[2] A case which occurred to Dr Ivanhove of St Petersburgh, and another to Sir B. Brodie are mentioned, which were obviously similar; but the details are so meagre, that I have placed them in the appendix.

"*Inspection of the body*, 48 *hours after death*.—The body was a good deal emaciated. . . With the exception of the stomach being remarkably small, there was no deviation from healthy structure either in the thoracic or chylopoietic organs. Upon laying open the abdominal cavity, the urinary bladder was seen of at least treble its proper size, rising up nearly to the umbilicus. United to the upper and left side of the bladder, were seen two or three sacs, filled with fluid, the size of eggs, lying in the left iliac and lumbar regions, and having a distinct covering from the peritoneum. The descending colon, as well as the small intestines, were completely pushed over the right side of the abdominal cavity, by these sacs. The urinary organs were removed entire from the body, and reserved for careful dissection. I found that the right kidney was in a state of complete atrophy, not retaining more than a fourth of its proper bulk, and its tissue possessing a granular hardness, and exhibiting no trace of division into cortical and tubular structure. I could not meet with any trace of supra-renal capsule on this side. The commencement of an excretory duct was present, in the form of a very small pelvis, which contained a few drops of a dirty mucous fluid; below this the ureter was represented by a thin impervious cord of about an inch, but the lower part of the ureter, for the length of two or three inches, was pervious, and of much greater calibre than usual, admitting, as it would, a large swan's quill. It opened into the bladder in the ordinary manner.

"The left kidney was about double its normal size, and presented in a remarkable extent the lobulated character; the fissures between the lobules being of great length. It was surmounted by a supra-renal capsule as usual. The appearance of cysts, filled with fluid, was now seen to depend upon a most surprising dilatation of the left ureter, which had more resemblance to the small intestines than to any thing else. The dilatation was interrupted in three places by constricted portions, the central one of which, situated about mid-way between the kidney and the bladder, was nearly half an inch in length, and was contracted to such a degree as not to admit a fine probe; and through this portion the urine could only be forced by considerable pressure. The other two contractions were to much less extent, and the upper would have allowed of the passage of the little finger, the lower of a large bougie. By means of these three constrictions, the ureter was divided into four portions, or chambers, of irregular shape and size, which opened successively into each other. The whole canal was considerably lengthened, as well as dilated, and measured, when extended, about thirteen inches; the dilated portions were folded upon themselves. The lowest chamber, or division, was of the greatest size, measuring about 1¼ inch in its greatest diameter; the next superior was the smallest, being about ¾ of an inch in diameter; the third was about the same size as the first, but longer, and not so wide; the upper chamber, which represented the pelvis of the kidney, was about two-thirds the size of the third. The two upper chambers both presented traces of constriction in their centres. This ureter communicated with the bladder by an opening of somewhat greater size than normal, and did not perforate the coats in the usually decided oblique direction. Upon introducing a probe through the bladder into the ureter, and examining the first contraction carefully with its point, no valvular fold of membrane could be detected. The muscular coat of the bladder was hypertrophied in a proportion corresponding to the dilatation of its cavity. About four or five ounces of turbid urine were contained in the bladder and left ureter, which had an acid re-action on litmus paper; that expressed from the upper chambers of the ureter was mixed with a good deal of dirty mucus.

"Neither of the testicles had descended. The right lay in the abdominal cavity in the iliac fossa, just above the inguinal canal. On the left side no testicle would appear to have been formed; the spermatic vessels on this side terminated in a little mass of fat; the vas deferens, however, was present, and was apparently as well developed as that of the perfect testicle. The preparation has been deposited in the Hunterian collection."—*London. Med. Gaz.*, vol. xx. (1836-37), pp. 717-19.

Case 5. *Cystous disease of the kidney from obstructed ureter, in a child four days old.*—Billiard describes the following case:—"A child, four days old, strong and florid, had a rounded tumour in the lumbar region, offering in its centre a reddish excoriation, and in its circumference, a hard, red, uneven ring. It died in a month, and on dissection there was found a considerable effusion of serum in the lateral ventricles, along the spine, and in the tumour which existed in the lumbar region, on a level with a separation of the spinous apophyses, of the last lumbar and first sacral vertebræ. The left kidney consisted of a mass as large as a goose's egg, of semi-transparent globules irregularly agglomerated, forming as many cysts full of an inodorous fluid. These cysts all intercommunicated. Those nearest the pelvis opened into that reservoir, which was similarly filled. The kidney presented nothing of its natural structure; near its fissure a layer of pretty thick, and as it were, condensed cellular tissue was observed. In this tissue terminated, and were even obliterated, the renal artery and vein. The pelvis, not communicating with the ureter, formed a true cul-de-sac. The ureter was well developed near the bladder, into which it opened as usual; but ascending towards the kidney it degenerated into two very thin, small cords, bifurcated and imperforate, and near the pelvis their filaments were multiplied, and applied themselves to the kidney in the form of the pes anserinus. The right was larger than usual. The bladder very small; it contained turbid urine, in which was found a great deal of gravel as fine as sand. The obliteration of the ureter was probably the cause of the dropsy of the kidney."—*Billiard, Maladies des Enfans. Stewart's translation, as quoted by Roberts.*

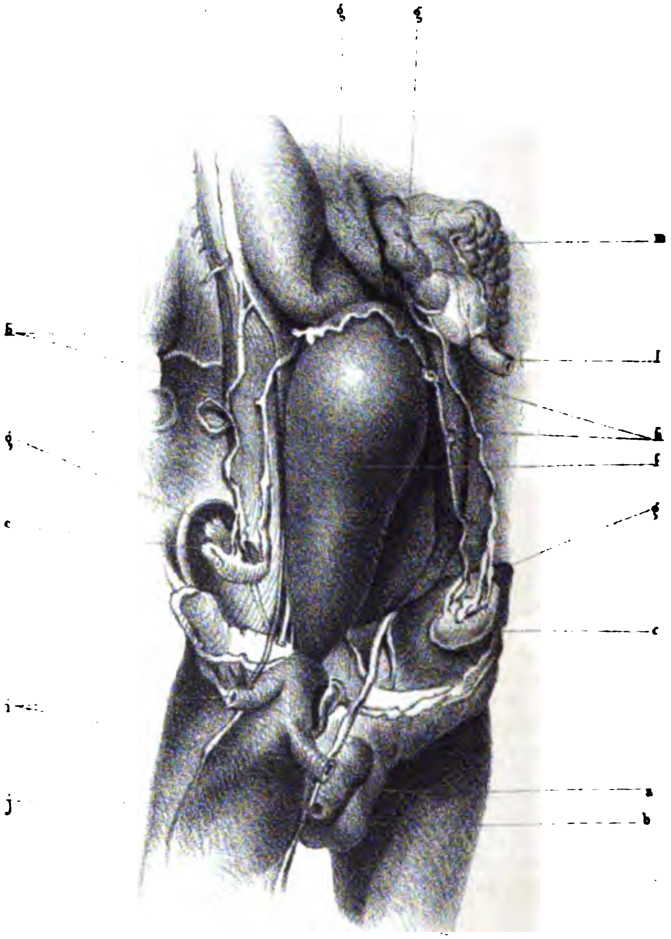
Case 6. *Cystous disease of the kidney from want of internal orifice of the urethra.*—"A male still-born child presented the following appearances. The belly, excessively inflated, formed a very projecting conical tumour. A vast pouch filled its cavity, and the intestines were pushed backwards and upwards. On the lateral parts of this pouch, and rather in front, were attached and spread out the vesiculæ seminales, whose seminiferous ducts, very thin and much elongated, passed to the lower and lateral parts of the cyst, in which the testes were found. Lastly, near the summit of the so-called cyst, and directly between the two seminal vesicles, the rectum, very large and much distended with meconium, applied itself and adhered solidly, becoming obliterated, to the wall of this voluminous pouch, which was recognised to be the bladder, enormously distended by a white, inodorous, neutral fluid, containing flocculi of mucus with which its inner walls were lined. *The internal orifice of the urethra did not exist.* A probe passed in only half an inch; beyond this was only an elongated, narrow filament, lost in the cellular tissue of the perineum. Unless a reddish tissue placed on the bladder, behind the insertion of the rectum, could be considered as such, no prostate gland could be found. The ureters opened naturally into the bladder, and were large, and went on as large as a hen's egg, and presented the same lobular structure as in the preceding case. The lobules, however, were smaller, less transparent, and were found partly covered by the cortical substances, but the calyces and pelves were wider, and more distended than usual. A white, inodorous fluid filled the vesicular lobules, which all communicated and opened into the pelvis. The urachus was only a small obliterated duct. The rectum ended in a cul-de-sac adhering to the bladder, and there was no anus."—*Billiard, Maladies des Enfans. Stewart's translation, as quoted by Roberts.*

Case 7. *Cystous kidney from obstructed urethra—Dystocia from distended bladder.*—Mr Fearn details the following case. His friend, Mr Charles Cade, was called in by the midwife, in consequence of some difficulty occurring in the delivery. "He found a presentation of the head and umbilical cord, and after waiting some time, the head was expelled, but he then found it impossible to bring away the body of the fœtus. In this dilemma he contrived to obtain a hold of and to amputate both arms; he afterwards divided the spine at the junction of the cervical and dorsal vertebræ, and opened the cavity of the chest freely. Having done this, he was enabled to feel in the situation of the diaphragm, an elastic tumour, which he punctured, and immediately an immense quantity of reddish watery fluid escaped. This proceeding removed every difficulty, and the delivery was then, as far as the mother was concerned, safely effected.

"Having possessed himself of the fœtus, Mr C. was so kind as to bring it to me for examination, and for some time we were certainly a good deal puzzled to know what to make of it. It was a male apparently of the seventh or eighth month of gestation. The parietes of the abdomen were large and flaccid, and in its cavity we found an immense sac, the coats of which were three or four lines in thickness, and everywhere traversed by numerous large vessels engorged with dark-coloured blood. This sac was, after careful dissection, distinctly made out to be the urinary bladder, which had been enormously distended by the secretion of the kidneys. Its muscular fibres were much hypertrophied. *It had no communication whatever with the urethra*, and the only firm attachment it had to the pelvis was by a broadish band of muscular fibres proceeding from its muscular coat, which were inserted into the fore and upper part of the symphisis pubis. The penis was well developed, but the urethra passed down it only as far as its membranous portion. *The kidneys were flabby, and when cut into, their secreting and tubular portions were found much* attenuated, owing to the distension which the pelvis of each had undergone. The urethra on each side when inflated, was nearly an inch in diameter, and its valvular opening into the bladder was considerably larger than natural, on one side readily admitting the point of the little finger. The bladder was filled with water, and contained upwards of two quarts. The rectum terminated in a blind pouch in the pelvic cavity, and there was consequently no anal opening. There was besides an arrest of development of the right lower extremity, the limb becoming suddenly wasted immediately below the knee, and having attached to it a foot no larger than, and in every way resembling that of an embryo of the tenth or twelfth week. The body appeared in other respects to have been tolerably well nourished." *Lancet for* 1834–35, p. 178.

CASE 8. *Congenital cystous disease of the kidney from obstructed ureter.*—The following case is detailed by Mr Glass in the *Philosophical Transactions*, vol. 47. I quote it as given by Mr Howship.

"The mother was dropsical in her pregnancy; the infant was born with the abdomen full of water, but otherwise healthy; and, though the disease increased as she grew up, she lived to be twenty-three years old; she was otherwise healthy, but of enormous bulk. The catamenia left her eight months before her death, and from that time she declined with the usual symptoms of dropsy. On perforating the abdomen, nearly thirty measured gallons of a light coffee-coloured fluid came away. Laying open the belly, a large membranous bag, that had contained the water, presented itself, partially adherent to the anterior parietes of the abdomen, and occupying nearly the whole of its cavity. In appearance, colour, thickness, number, magnitude, and distribution of blood-vessels, it much resembled the uterus of a cow, at the end of the gestation. The whole inside was scabrous, as if parboiled, and within it was a small remaining quantity of a coffee-coloured fluid. On the left interior part was discovered the orifice of a duct, which opened obliquely into the cavity of the sac, and easily admitted a goose quill. This tube advanced twelve inches between the membranes of the bag obliquely upward to the right, whence it was inflected downwards, and passed between the duplicature of the ligamentum latum uteri, to be inserted into the bladder of the urine. The left kidney, with its blood-vessels and ureter, were in their natural state and situation. The urinary bladder was very small but sound. Search was next made for the right kidney, but no such viscus was



CASE OF HERMAPHRODITISM
WITH CONGENITAL CYSTOUS KIDNEY
DESCRIBED BY STEGHLENER
Vide Case IX

found, unless the sac that contained the water might be esteemed such. The disposition of the vessels on the right side favoured this opinion, as they passed from the aorta and vena cava to this sac, in the same manner as to the opposite kidney, and having run twelve or fourteen inches between the membranes of the bag, without throwing off any branches, were afterwards distributed over it, in the manner described.

"There can be no doubt that in the above case the immense sac found after death was originally the kidney."—*Howship on Urinary Diseases*, pp. 32, 33. London: 1823.

The state of the kidney in the monster described by Steghlener, ought *probably* to be referred to this variety of cystous disease. The case is so very remarkable a one, that along with the description of it, I give a drawing from Professor Simpson's valuable and erudite work on Hermaphroditism, contained in Todd's *Cyclopædia of Anatomy and Physiology*.

CASE 9. *Hermaphroditic monstrous infant with vesicular or cystous kidney, from obliteration of the urethra.*—"The infant survived only for half-an-hour after birth. Upon its body, Steghlener found perfect external male organs, (*a, b*,) and internally two small elongated testicles, (*c.c*,) with their epidydimes, (*g, g*,) and the convolutions of their vasa deferentia distinctly marked. Between the rectum and bladder, there was placed a very large pear-shaped bag or pouch, (*f*,) with firm, coriaceous, but not thick walls, and distended with fluid. This bag or imperfect cystoid uterus terminated inferiorly by a narrow neck, in a vagina that opened into the urethra, in the situation of the verumontanum, and was there dilated into a large bag or ampulla, occupying exactly the site of the prostate gland, and resembling this organ also in its form and position. The internal membrane of the uterus was collected in its neck into various valvular-like folds, and that of the vagina had also a rugous or plicated arrangement. From the fundus of the large sac of the uterus, and not from its angles, but near its middle, two impervious solid ducts (Fallopian tubes, or rather vasa deferentia) arose, and after a somewhat flexuous course reached the testicle, (*c, c*,) lying in the superior part of the iliac fossæ. These ducts had attached to them at one or two points, a number of small reddish nodules, (*b, b*,) consisting, according to Steghlener, of glandular granules, and described by Ackermann in his case as vesiculæ seminales. *The canal of the urethra was obliterated for a short distance towards the fossa navicularis, and the urinary bladder*, (*j*,) and uterus (*i, i*,) were *extremely distended, and the left kidney was vesicular.*" Vol. ii. p. 710.

The mechanism by which the state described in the following case was produced, is similar to that which was in operation in others already detailed, but the cystous change was merely in the simple or earlier stage of dilatation of the uriniferous tubes.

CASE 10. *Distension of the pelvis and infundibula, from obstructed urethra in a new-born infant.*—Dr Kennedy exhibited to the Dublin Pathological Society, "a preparation from the body of a new-born infant, in which there was enormous distension of the bladder and ureters, with *obstruction of the urethra.* The ureters were distended to a remarkable degree, an inch in diameter, and exceedingly tortuous. The bladder was greatly enlarged, and the *left kidney dilated, the enlargement being produced by distension of its pelvis and infundibula*, with a fluid which did not contain urea: the substance of the organ had been considerably diminished by absorption."—*Dublin Journal*, 1840.

The distending fluid was probably urinous, or partly so, although it is stated that on examination no urea was detected.

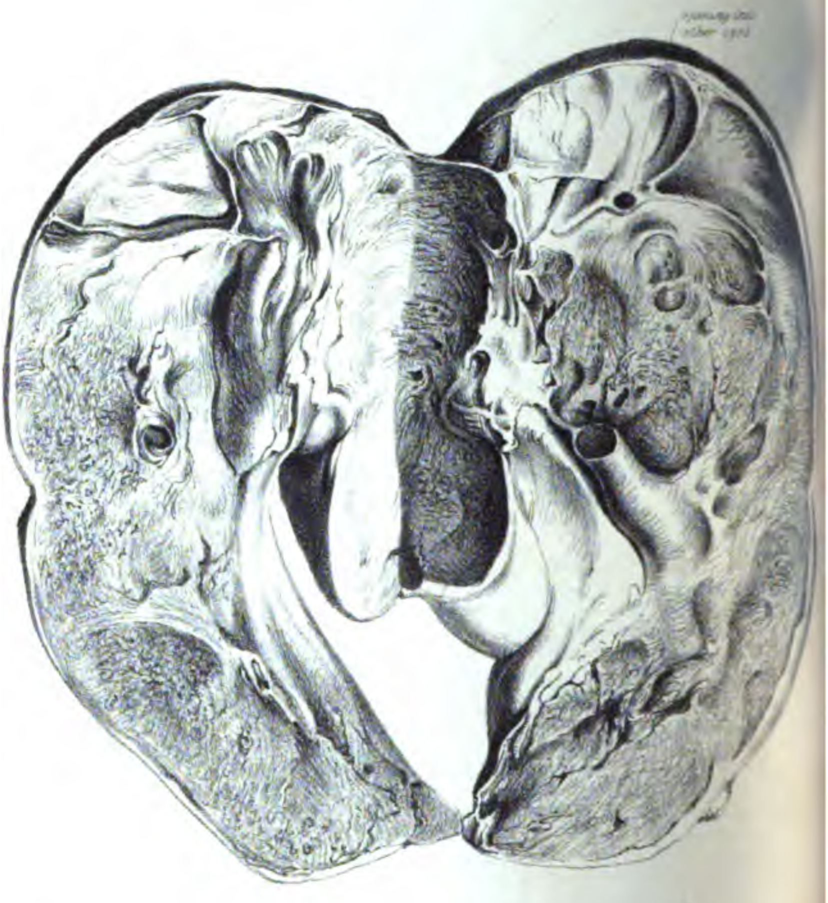
3. *Cystous disease without obstruction of uriniferous vessels.*

This may be either complete or partial. The organ, or part of it, may be converted into one or more cysts; generally they are several, and most frequently numerous. This form of renal disease seems usually to commence in the middle of the cortical or granular substance; and the largest cysts will in most specimens be found to occupy the external part of the organ. Each cyst generally, and perhaps always, communicates with those adjoining by means of one or more circular and nicely rounded apertures, so that the organ, in whole or in part, becomes a multilocular pouch. Here the mechanism of formation is quite different from that which operates in the cases of obstructed uriniferous vessels. It consists, I believe, in the abnormal development of the cells of the cellular tissue, which binds together the different parts of the kidney: and in the absorption of the renal tissue, in consequence of its compression by the large and distended cells.

Case 11. *Dystocia from cystous kidney in the mature fœtus.*—The child was born at the full period of gestation. The head had passed the external orifice when the medical attendant arrived. From the great difficulty which attended the expulsion of the body, another practitioner was called in consultation. Manual interference was required to accomplish delivery. The child made one or two abortive attempts to respire, and then died. It was of average size, excepting the abdomen, which throughout was greatly enlarged, and very hard. The face, as well as the whole of the external surface of the body, was more than usually livid. Upon opening the belly, two large tumours were observed filling up the abdominal cavity, and compressing the bowels. These were the kidneys. They were of similar appearance, and almost equal weight. Such are the particulars which were sent to me from a distant part of the country, along with one of the kidneys, by the gentlemen in whose practice the case occurred. The left kidney arrived in excellent preservation. Its external shape was very much what is natural, and it was lobulated in the way in which the fœtal kidney usually is in the healthy state. It was somewhat flabby, apparently from the exudation of fluid, for the cloth and paper in which the preparation was packed in a small box were quite wet.

It measured 4 inches in length, and 2¾ inches in breadth at the broadest part; the greatest thickness was 1½ inch; the weight was four ounces imperial. After allowing it to remain for twelve hours in water, and twenty-four hours longer in diluted alcohol, it shrunk somewhat, and acquired a firmer feel. The longitudinal section in the axis of the organ, which is represented in the plate, was then made. Three large cysts were thus beautifully laid open, at the upper and most superficial part, and a small rounded opening exposed on the walls of one of them, which was found to communicate with a still larger, which had not been cut into. Upon blowing in air through this foramen by a blow-pipe, such as is ordinarily used in the dissecting-room, liquid was displaced, and as this took place, the form of a large cavity was displayed by the aeriform distension. The round hole is well seen in the preparation, and also the outline of the wall of the cavity to which it leads, in consequence of some air still remaining in it. The whole of the organ seemed, even to the naked eye, converted into cysts, and when a magnifying glass was used, this appearance was still better seen, some of the smaller cysts being thus brought into view. There could be no trace of renal tissues discovered, although search was made for it by Mr Goodsir, and other experienced microscopists. A sort of fibrous-looking texture was seen ramifying among the smaller cysts. There was no dilatation of the ureter or pelvis of the kidney. The blood-vessels seemed of calibre correspond-

SECTION
OF THE
CYSTOUS FŒTAL KIDNEY



Described by Dr CORMACK

Vide Case XI

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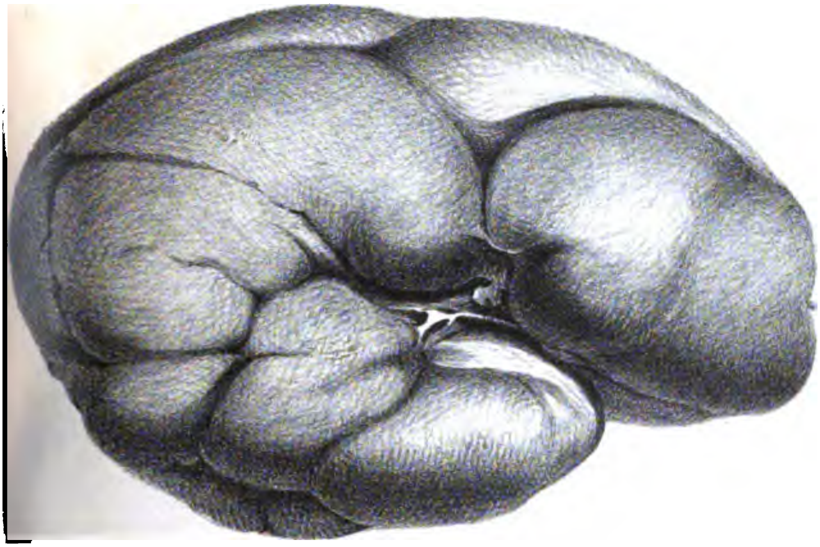
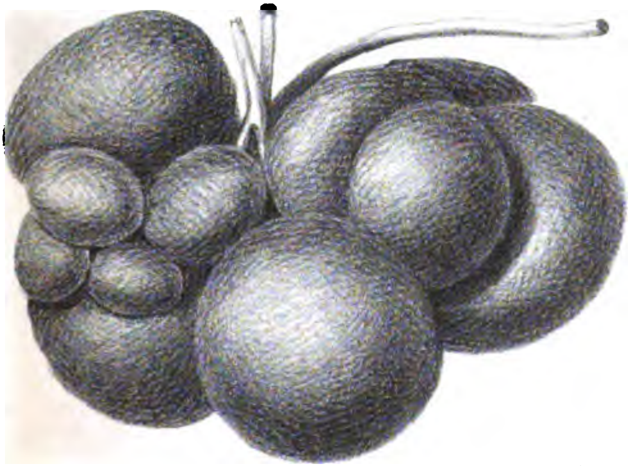


CYSTOUS FŒTAL KIDNEY

Presented by Dr CORMACK.

Vide Case XI



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CONGENITAL(?) CYSTOUS KIDNEY.

Vide Case VIII

ing to the enlarged kidney. So far as a very hurried examination of the body of this fœtus enables the experienced gentlemen who made the autopsy to speak, they report that there was nothing abnormal excepting the kidneys. It is extremely to be regretted that they had it not in their power to make, at leisure, a careful autopsy.

The preparation is placed in my museum, where it will give me pleasure to show it to those who take an interest in congenital disease.

CASE 12. *Cystous kidneys and double pleurisy in an infant found dead.*—I am indebted to Professor Simpson for the following very interesting case.

The dissection of an infant found dead near Polmont was ordered by the authorities as the reputed mother had been arrested on the charge of infanticide. The infant was well formed and of the full time. It had not breathed. There was pleuritic effusion into both sides of the chest. The kidneys were enormously enlarged, but not quite so much as in the case which I have described. They were sent to Dr Simpson, who, upon examining them, found that they had undergone cystous transformation, independent of any enlargement of the pelvis, infundibula, or tubular structure.

CASE 13. *Congenital* (!) *cystous disease of the kidney—Death at the age of three.*—In the fourth plate of the 6th *livraison* of Cruveilhier's *Pathological Anatomy* is figured the kidney of a child who died at the age of three in the Hôpital des Enfans Malades of Paris. The preparation was presented by M. Baffos to M. Cruveilhier: he regards the disease as congenital, but does not state the ground on which this opinion is founded. The ureter is of natural form and size, so that the cystous transformation cannot have been caused by obstruction. The whole of his description is contained in these words—"The kidney is formed by a certain number of cysts, of unequal size. An artery, renal vein, and ureter, are seen, but not the least trace of renal tissue. I regard this state of the organ as congenital. (*Je regarde cette disposition comme congénitale.*)"

I have given a copy from Cruveilhier's plate. It would be interesting to know upon what grounds M. Cruveilhier comes to this conclusion. The case which I have just detailed sufficiently establishes the rapidity with which this species of cystous renal transformation may take place; and we cannot suppose that it would require a less period of extra-uterine than of intra-uterine life to accomplish the change.

Appendix.

To the cases which I have arranged above, a considerable number of others might be added, were it not that the particulars of them have come before me in too meagre a form to admit of their exact nature being determined. Some of them, however, are of sufficient importance to claim a notice in this place. Along with these which have been detailed, they direct attention to intra-uterine cystous disease of the kidneys as a cause of dystocia; and of the death of the child, during, at, or subsequent to delivery. To the accoucheur and the medical jurist, all cases of this kind are full of interest. To the latter, they teach the necessity of examining the kidneys and urinary apparatus generally, in the judicial inspection of the bodies of infants supposed to have been murdered.

Case 14. In a MS. volume of dissections of morbid parts, by Mr Wilson, it is noted, that "in January 1787 Mr Cruikshank delivered Mrs Tylcote of Oxford Road of a child, apparently well, which, however, died in a quarter of an hour after it was born. He opened it the day after, and found *both kidneys entirely gone into hydatids, and both of them enlarged to the size of a man's.* The ureters were exceedingly convoluted and distended, and filled with fluid, as was the bladder prodigiously enlarged; also the muscular fibres upon the stretch, and exceedingly distinct, nearly the size of a man's."—*Dr Lee's paper, already quoted.*

The case now detailed might perhaps have been quite correctly placed above among those of the second class; but I have not done so, as it is not actually stated that there was any obstruction of the ureters or urethra.

Case 15. "Dr Ivanhove," says Mr Howship, "a most intelligent young physician, in looking over my portfolio, upon seeing the drawings I had made from the preparation," (of Dr Merriman's case, referred to as being in Mr Heaviside's museum), "acquainted me that he had dissected a child born at the full time, who lived forty-eight hours; where the urethra was imperforate, the bladder was much, but the ureters still more distended with urine. It was supposed by those present, that these changes might have been the result of secretion after the birth."—*Howship on Urinary Diseases*, p. 376. Lond. 1823.

Case 16. "In the following similar instance, for which I (Mr Howship) am indebted to Mr Brodie, a male fœtus of nearly the full time was brought into the dissecting room, in which the external orifice of the urethra was deficient, in consequence of original malformation. The bladder was found moderately distended with urine; the ureters were also distended with urine, as were the imfundibula and pelvis of each kidney. The urine was examined by Dr Brande, who found it to have the other properties of urine, but to have no uric acid in its composition."—*Howship*, op. cit. p. 376.

Case 17. In the first number of *Gemeinsame Deutsche Zeitschrift für Gebertskunde*, a case of this kind is related by Professor Osiander of Göttingen. *The kidneys were as large as in the adult, and greatly distended the abdomen.* The other viscera of this cavity were very small. I have only seen this reference to it in the 4th volume of the *American Journal of the Medical Sciences.*

Case 18. Dr Roberts states that, "in the *Gazette Médicale* for 1835, is related the dissection of an extraordinary monster born at Boulogne, weighing 13 livres, who among other malformations *had the kidneys granular and hydatidous.*"[1]

Case 19. A lady of Philadelphia during the residence of Dr James Webster, was delivered of a healthy (?) child. "Two weeks after birth, the child having made no water for two days, a large fluctuating irregular tumour was found, occupying the lumbar and iliac regions, which disappeared next day after a copious flow of urine. This occasionally recurred. At 18 months of age, the child died of long-continued irritation. The ureters were enlarged to nearly double the size of the large intestines, and completely distended with urine. At their exit from the pelvis, they partially covered the kidneys; at their entrance into the bladder they were small, and their valvular structure entirely preserved. The bladder was larger than natural, but bore no appearance of inflammation." Nothing is said as to the condition of the kidneys.—*Dr James Webster, in United States Med. and Surg. Journal for June 1835, as quoted by Roberts.*

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[1] I regret that the volume of the *Gazette Médicale* for 1835 is not in my library, but in that of any public institution of this city.

Case 20. Moreau mentions the following case. "A small child was born, having a large belly inordinately distended with fluid. It died in 30 hours, and on opening it, near one pint of reddish yellow serosity was found in the peritoneal cavity, the intestines being no bigger than a lumbricus, and containing no meconium. The bladder was distended so as to reach above the umbilicus; its walls were thick and hard, spotted with red points, and the muscular columns were fleshy. *The ureters were as large as the little finger; and the kidneys were very large, and like two large cysts.*"—*Mém. de l'Acad. Royale de Méd.* 1828; *as quoted by Mr Roberts.*

Case 21. "Sœmmering, on the 76th page of the catalogue of his museum, has inserted the following:—Fœtus maturus, permagnus, abdomen renibus ingentibus tumidum."—*Roberts, op. cit.*

PART SECOND.

REVIEWS.

Sicheres Heilverfahren bei dem schnell gefährlichen Lufteintritt in die Venen und dessen gerichtsärztliche Wichtigkeit. Von Dr Ch. Jos. Edl. v. Wattmann, *Professor der praktischen Chirurgie, und der ersten Chirurgischen Klinik Vorsteher des Operations, Institutes an der k. k. Universität in Wein u. s. w.* Wein: 1843.

(*A more sure method of Treatment in the rapidly dangerous Entrance of Air into the Veins, and its Medico-Legal Importance. By* Dr Ch. Jos. Edl. v. Wattmann, *Professor of Practical Surgery, and of the first Surgical Clinic, Superintendent of the School of Operations in the Imperial University of Vienna, &c.* Vienna: 1843.

The rapidly fatal effects of throwing a quantity of air into the blood-vessels of an animal have been long known. The first experiment of this kind has been attributed to Wepfer, who is said to have laid prostrate, and killed an ox of stupendous size, by inflating with his mouth the jugular vein.[1] Redi, in a letter to Steno, written about 177 years ago, mentions that he himself had instantly killed, by the same means, two dogs, a hare, a sheep, and two foxes. Similar experiments were repeated with the same results by Heyde, Brunner, &c. Additional interest and practical importance were given to these facts by Ruysch, Valsalva, Morgagni, and others, who observed in some post-mortem examinations, considerable quantities of a gaseous fluid in the vascular system, which they believed to be air, and suggested the idea, that quantities of gas may be evolved in the vascular system during life, and kill by inducing apoplexy, or by arresting the movements of the heart. This opinion seems, however, to have gradually lost ground, and the experiments and observations which had given rise to it, had been for many years seldom referred to, even by physiologists, when Bichat published his well known *Recherches Physiologiques sur la Vie et la Mort*. In this work he made some startling statements, regarding the smallness of the quantity of air capable of causing death; and gave a new explanation of its *modus operandi*. The carefully conducted experiments of Nysten[1] shortly followed, and fully exposed some of the errors into which Bichat had fallen. In 1818, this subject assumed a novel and important feature to the practical surgeon. Until this time the only evils which the surgeon dreaded from the wound of a vein was hæmorrhage, and the subsequent effects of the application of a ligature to it, when this was necessary; but a new danger, most sudden in its occurrence, and most alarming in its consequences, was now made known. In that year, a patient expired at the Hôpital Saint-Antoine, in the hands of Dr Beauchêne, while extirpating a tumour from the right shoulder and lateral and lower part of the neck, under circumstances which led to the belief that this was occasioned by the entrance of air into the vascular system through an opening in a vein. Cases of sudden death during operation attributed to this cause were afterwards reported as having occurred in France, in Germany, in this country, and in America; and, as generally happens, when public attention is roused by new and unexpected results, there was for some time a tendency to extend their application beyond legitimate bounds, and sudden deaths were referred to this cause, which, under the exercise of greater care and discrimination, would necessarily have been excluded. In August 1837, Dr Cormack's Prize Thesis was published. In the same year, a keen discussion upon this question, in the Académie de Médecine of Paris, followed the communication of a case by Amussat, where sudden and alarming symptoms of dissolution occurred during the extirpation of a diseased mamma, attributed by him to the entrance of air into a wounded vein. On this occasion Velpeau, Gerdy, Blandin, and Mallé, not only challenged the accuracy of this explanation given by Amussat, but by a searching analysis of the history of the other cases of this nature previously recorded, demonstrated that some of them, at least, were so imperfectly observed and described, or were attended by phenomena so dissimilar to those remarked in the experiments on the domesticated animals, that the cause of the sudden death of the patient must either be considered a matter of doubt, or attributed to some other agency. Velpeau afterwards published a connected account of his objections in the *Gazette Médicale de Paris*, 2d February 1838, and though he and his supporters have occasionally manifested a certain degree of hypercriticism, and have not allowed to some facts their due weight, yet there can be no doubt that this discussion was of much service in correcting the tendency to attribute death to the entrance of air into the veins on insufficient grounds, and in fully disclosing certain imperfections in our knowledge of this subject. In this discussion the objectors naturally attached considerable importance to the fact, that the phenomena observed in the experiments on the domesticated animals on the effects of air in the vascular system, were in general different from those which had presented themselves in the alleged cases in the human species, and this must have drawn attention to the circumstance, that hitherto the conditions under which the experiments were performed on animals, were not the same as those under which this occurrence took place in the human species. In all experiments and observations then made upon the lower animals, the air was forced into the vein, either by a syringe, or by blowing with the mouth, with the four following exceptions: one imperfect experiment by Mery upon a dog;[1] a case observed by Verrier in 1806, and a similar one by Bouley in 1821, of the entrance of air into the jugular vein in the horse, when opened in phlebotomy; and the experiment of Magendie, to prove that when a tube, whose walls are capable of bearing off the atmospheric pressure, is introduced into the jugular vein, and carried a certain distance towards the heart, atmospheric air readily enters the vascular system.[2] To remedy this defect Amussat undertook a series of experiments upon what has been termed the *spontaneous entrance* of air into the veins,—which means, that an opening was made into a vein, and the air allowed to enter by it, through the agency of certain physical causes which influence the circulation of the venous blood within and in the neighbourhood of the thorax, and was not mechanically forced in by a syringe, or by blowing through a tube,—and these were repeated in presence of a commission of the Academy, of which Bouillaud was reporter. These and additional experiments were published by Amussat in 1839.[3] The only authors in this country who have written on this subject since the time of Dr Brown Langrish, who made only one imperfect experiment,[4] are Dr Cormack,[5] Sir Charles Bell,[6] and Mr Erichsen.[7]

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[1] *Vide* Morgagni de Sedibus et Causis Morborum, epist. v.

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[1] Recherches de Physiologie et de Chimie Pathologique, 1811.

The treatise of Dr Wattmann contains no new experiments upon the lower animals, and is chiefly occupied, as its title would lead us to expect, in examining the causes which favour the accidental entrance of air into the venous system in the human species, the modes of preventing this, the remedies to be employed when it does occur, its other surgical relations, and also its bearings upon Forensic Medicine. He points out that the surgeon, by employing a certain procedure, can in most cases at least, prevent the entrance of a fatal quantity of air; and he describes a new method of securing the wounded vein when not more than half its circumference is cut through, by which the further entrance of air is prevented, and the hæmorrhage arrested from such large veins as the internal jugular and subclavian, without very much diminution of the calibre of the vessel. He also gives the details of four very interesting examples of the accidental entrance of air into the veins, which occurred in his own surgical practice, and though one of these was published as early as 1823, they have hitherto been entirely unknown to those who have collected and commented upon such cases, in France and in this country.[1] In giving an account of the physiological part of his subject, he is necessarily led to examine the results obtained by the different experimenters upon the lower animals,—from which source almost all our knowledge of it is derived,—and in doing this he shows a perfect acquaintance with all that has been previously published on the question.

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[1] Académie des Sciences, 1707.

[2] Leçons sur les Phenomènes Physiques de la Vie, 1836.

[3] Recherches sur l'Introduction Accidentelle de l'Air dans le Veins.

[4] Physical Experiments on Brutes, 1764.

[5] Prize Thesis. Inaugural Dissertation on the Presence of Air in the Organs of Circulation, August 1837.

[6] Surgical Essays, 1840.

[7] Edinburgh Medical and Surgical Journal for January 1844.

We shall now proceed to give a connected, and as complete a view as our space will permit us, of the present amount of our knowledge upon the points discussed in the volume before us, selecting from each author those facts and opinions which we deem most worthy of credit. We are the more induced to do this, as we are convinced that our knowledge of this subject is now sufficiently advanced, to enable us to attempt it with considerable confidence and satisfaction.

1. *Quantity of air introduced into the venous system necessary to cause death.*—We have already referred to the exaggerated notions of Bichat on this point, who asserted that a few bubbles of air introduced into the vascular system were sufficient to cause immediate death. The experiments of Nysten proved that unless a considerable quantity of air enters the blood-vessels it does not prove fatal. He estimates that the injection of from forty to fifty centimetres cubes of air (between 2·83 and 3 cubic inches English) in a small dog, and from 100 to 120 centimetres cubes (120 centimetres being equal to 7·323784, and 100 centimetres to 6·100232 cubic inches English) in a large dog are necessary to cause death, even when injected quickly into the veins, and that larger quantities are required to kill more voluminous animals as the ox and horse. Magendie states that certain animals admit enormous quantities of air to be briskly introduced into their veins, without perishing, and adds, "I remember having thrown with all the force and celerity with

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[1] These cases are given in the concluding part of this article in our next number.

which I was capable, 40 to 50 pints of air into the veins of a very old horse without his dying immediately, though he sank at last." A considerably less quantity than this is in general sufficient to kill a horse. In the first experiment related by Dr Cormack, and performed upon a horse, a tube a quarter of an inch in diameter was introduced into the left jugular vein, and the person who blew, filled his chest twice and continued to blow for a minute, before the animal exhibited those symptoms of uneasiness which are generally the fore-runners of a rapid death. Though all the other experiments of Dr Cormack and M. Amussat show that the introduction of a considerable quantity of air into the venous system is necessary to produce death in the domesticated animals, it is yet impossible to fix the exact quantity requisite, and it clearly varies not only in different species of animals, but even in different individuals of the same species. Judging from the recorded cases of the accidental entrance of air into the human species, the presence of a smaller quantity of air is capable of inducing death in them, than in the lower animals. Barthelemy, finding that six horses, weakened by previous loss of blood, died after the entrance into the veins of 4 litres of air, and a seventh after 6 litres, calculates that a man weighing 136 lbs. would be killed by the introduction of $\frac{2}{3}$ of a litre of air into the venous system. Such a calculation, as Wattmann correctly remarks, resting upon the supposition that the human species differs only from the horse in weight, is not entitled to much confidence. The quantity of air necessary to induce death is modified by the rapidity and volume with which it enters the opening in the vein. The same quantity of air which kills when introduced rapidly, will fail to do so if introduced more slowly.

2. *Period of death.*—When the air is forced largely and rapidly into one of the great veins near the heart, death very soon follows. In one of Dr Cormack's experiments upon a dog, the animal died in twelve seconds, and in another upon a horse, death occurred in three minutes after the commencement of the inflation of air into the jugular vein. In eighteen animals subjected by Amussat to the forced and rapid introduction of air into the jugular vein, death took place in fifteen of these at the following periods:—In rabbits from 50 seconds to 1 minute; in dogs, after 2 minutes; in sheep, from 1 to 2 minutes; in horses, after 3, 5, 6, 6½, 13, 16, and 23 minutes.[1] The differences in the period of death in these experiments is partly due to original and unknown differences in the vital constitution of the animals operated on, and to a greater extent perhaps, as Dr Cormack and M. Amussat remarked, to the manner in which the air is forced into the vein. When the air is thrown in forcibly through

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[1] As Amussat, however, dates the moment of death from the cessation of the reflex movements of the orbicularis palpebrarum muscle from irritation of the membrana conjunctiva of the eye-ball, and not, as many other experimenters more correctly do, from the cessation of the sensorial functions and the respiratory movements, the period of death will appear to be somewhat later, than if the cessation of the sensorial functions and the respiration had been taken as evidence of death. Op. cit. p. 33.

a large tube into a vein near the heart; and care is taken to prevent the escape of part of the air through the opening in the vein by the sides of the tube, the death is more rapid and certain than when the tube employed is small, or when part of the air again escapes from the vein. All these observations upon the period of death when air is *forced* into the veins do not, however, admit of any direct comparison with those made in the instances of accidental entrance of air in the human species, the conditions under which the air passes into the vein being so different in the two classes of cases. The experiments of Amussat on the *spontaneous entrance* of air into the veins, were on the other hand made under circumstances resembling as closely as it was possible to do, the conditions under which the air accidentally enters the veins in the human species. His first series of experiments were performed upon 26 animals, and of these 24 died and 2 survived. Five rabbits died after 1½, 2, 3, and 5 minutes: seven of nine dogs experimented on, died after 1, 3, 6, 10, 16, 24, and 30 minutes, while the remaining 2 survived; two sheep died after 19 and 56 minutes: ten horses after 14, 15, 17, 26, 28, 35 minutes, 1 hour and 44 minutes, 1 hour 50 minutes, and two hours 30 minutes. One only of the horses resisted the effects of the entrance of air, and this apparently in consequence of the neck resting against a tree, and a clot of blood forming and blocking up the orifice in the vein. When the clot was removed the animal died after 26 minutes. In a second series of experiments, he previously abstracted a certain quantity of blood, and subjected the animals to the usual incisions required in some surgical operations before he permitted the air to enter the vascular system, and thus placed the animal still more nearly in the circumstances of those individuals of the human species in whom the accidental entrance of air into the veins occurred during a protracted operation, and after the loss of more or less blood. This series of experiments was performed upon 16 animals, and only 1 survived. The dogs died after 1, 4, 6, and 25 minutes; the sheep after 7, and 16 minutes; and the horses after 3½, 9, 12, 13, 16, and 23 minutes. Thus it appears, that the period of death was hastened considerably in those animals whose blood-vessels had previously been depleted by the abstraction of part of their blood. Judging from the details of the cases of the accidental entrance of air into the veins during operations on the human species, the presence of a smaller quantity of air is not only capable of proving fatal, but death occurs more rapidly than in the domesticated animal, and this has been urged among other objections, which we shall afterwards notice, against this explanation of the cause of the death of those individuals. We will merely remark at present, that though this objection is one which demands consideration, it must at the same time be remembered, that the loss of blood, with the pain and moral effects attending a protracted operation, must favour the injurious effects of the passage of air into the vascular system, and that the period of death varies considerably, not only in different genera of animals, but in different individuals of the same species. Wattmann, (p. 66) endeavours to show, that the more rapid death in the human species may be also aided by the following circumstances. " Man," he says, " has a larger brain than the lower animals, and requires for its nutrition a greater supply of blood; besides, the human brain manifests more complex functions than that of beasts, and this is a second reason why it requires a greater supply of blood. To effect these two objects, man has relatively a shorter neck, and the cerebral arteries and veins are wider than those of beasts. Further, man has the pre-eminence of the erect position, and the vital processes are in an especial manner more linked and dependant upon each other than in the lower animals, so that they are more readily and speedily brought to a stand when the circulation of the blood is disturbed. From the relatively larger size of the veins in the neck, the air may enter more rapidly and in greater quantity when they are wounded, and readily spreading itself over the vascular system, destroys the conditions necessary for the maintenance of the vital process, and proves rapidly fatal." We cannot admit that this explanation of the more rapid death in the human species is satisfactory, and our reasons for this will be better understood when we come to examine the causes of death in such cases. In the mean time we merely observe, that we are not aware that any interruption of the circulation or respiratory functions, provided that this be to the same extent in both, proves more rapidly fatal in the human species than in the lower animals, or, that in asphyxia for example, the period of death is earlier in the former than in the latter. As we shall afterwards point out, the erect position does facilitate the entrance of air into the veins; but during an operation the patient is as likely to be in a recumbent as in the erect position, and in a number of cases the air entered by the subclavian or axillary veins: the size of the vein is only one, though no doubt an important one, of the conditions which favour the rapid entrance of a large quantity of air. Air may pass into the vascular system, in quantities sufficient to induce alarming disturbance of the heart and respiratory organs, and yet the animal may not only survive, but rapidly recover from its immediate effects, as has been sufficiently proved by the experiments of Nysten, Cormack, Amussat, and others. Nysten found, however, in his experiments, that they subsequently died in the course of a few days from inflammation of the lungs, and Amussat observed the same thing in one of his experiments. The experiments of Cormack and Amussat have shown that this is not so constant a result as Nysten supposed. When an animal recovers from the immediate effects of the experiment, the air disappears from the

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[1] Op. cit. p. 23.

[2] Journal Hebdomadaire, tom. ii. p. 165.

vascular system in the course of three or four days. In some of the recorded cases of the accidental entrance of air into the veins in the human species, the patient recovered from its immediate effects even after the vital processes were almost brought to a stand, and in Malgaigne's case the patient died on the fourth day of a pulmonary affection, probably bronchitis; (par accumulation d'écume dans les bronches.) Mr Erichsen[1] states, that one of Roux's patients died on the 7th day from pneumonia, but on reading over the autopsy,[2] we are satisfied that the appearances described, indicated nothing more than the congestion of the depending parts of the lungs, so very frequently found after death. There may have been some bronchitis in the right lung, but we have no evidence that there was pneumonia.[3]

3. *Morbid Appearances.*—An exact knowledge of the state of the organs after death, is absolutely necessary to enable us to ascertain the manner in which the vital functions are arrested by the entrance of air into the vascular system; and will enable us to set aside at once some of the explanations which have been given of the cause of death. All experimenters whose results seem worthy of confidence, agree that the right side of the heart is always much distended with air and blood, whether the air be forced, or allowed to enter spontaneously into the veins. In general the blood is intermixed with the air, forming a froth; more rarely, a great part of the air continues free or unmixed with blood, as observed in a few of the experiments of Dr Cormack and M. Amussat. The pulmonary artery is also full of frothy blood, except in some cases where the air is forced rapidly and in large quantity into one of the veins in the neighbourhood of the heart, as occurred in one of Dr Cormack's experiments. In some cases the air is confined to the right side of the heart and the venous system; in others, the pulmonary veins, the left side of the heart, and the arterial system, also contain it. As this last point is of considerable importance in ascertaining the cause of death, we shall examine it at greater length. Nysten states that he never found the air in the arterial system; and as he operated on dogs alone, this will be accounted for by the following details. In 9 rabbits experimented on by M. Amussat and Dr Cormack, air was found in small quantity in the left side of the heart in 2; and in 7 it was entirely confined to the right side of the heart and the venous system. In 5 of these experiments it was allowed to enter spontaneously, and in 3 it was forced into the vein; and the 2 cases in which it was also found in the arterial system, occurred among the latter. In 6 sheep, M. Amussat found a small quantity of air in the left side of the heart in 4, and none in 2. In 21 dogs experimented on by Nysten, Cormack, Magendie, and Amussat, air was found in the left side of the heart in 1 only, and in very small quantity. In 12 of these it had entered spontaneously, in 9 it had

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[1] Op. cit. p. 23.

[2] Journal Hebdomadaire, tom. 2. p. 161.

[3] One of Wattmann's cases died of inflammation of the lungs.

been forced, and it was in 1 of the latter where the air was forced in slowly, that the small quantity was found in the arterial system. In 26 horses experimented on by M. Amussat and Dr Cormack, the air was confined to the right side of the heart and venous system in 7; it was found in small quantity in 6, and in large quantity in 12 in the left side of the heart and arterial system; and in some of the latter, the arteries of the brain were not only filled with frothy blood, but a portion of the air had escaped into the sub-arachnoidean cellular tissue. In 17 of these the air had entered spontaneously; in 9 it had been forced. The presence of air in the arterial system was proportionally more frequent in those cases where it was forced, than in those where it had spontaneously entered the opening in the vein. In all these cases, the quantity of air in the right side of the heart was always much greater than in the left; and Amussat found that even in all the cases where the air had entered spontaneously, in which the chest was opened *immediately* after death, the right side of the heart was distended with air and frothy blood, and sometimes to the extent of causing the heart to fill up completely the interior of the pericardium. With regard to the statement of Barthelemy, that he had observed the heart after death, from the spontaneous entrance of air into the veins, collapsed and flabby; and the experiment related by Mr Erichsen, where he found the heart nine minutes after death contracting regularly and vigorously, and *its ventricles not fuller than usual*, we strongly suspect some source of fallacy, for they are not only completely at variance with the well-conducted and numerous experiments of Amussat, but are very different from what we would expect. One source of fallacy readily suggests itself,—one which we know has led to similar errors, and it is this. In laying open the chest after death, if any of the large veins at the root of the neck be wounded, the right side of the heart may unload itself through the wound in the vein. In the cases of death from the accidental entrance of air nto the veins, the air has been sometimes confined to the right side of the heart and venous system; at other times it was also found in the left side of the heart and arterial system. In the 7 cases which Amussat places in the first of the five groups into which he has divided the examples of the accidental entrance of air into the veins n the human species, air was found both in the right and left side of the heart, and in the arteries in 2;[1] it was either not present or not observed in the left side in 5;[2] and only a few bubbles of air were found in the left side of the heart, but none in the aorta in 1 case.[3] As in the remaining case the patient did not die until the eventh day, the air had probably in a great measure disappeared; hough bubbles of air were still found in the aorta and its branches, but none in the arteries of the brain.[4] From these observations, it appears that frothy blood passes more readily through the capillaries of the lungs in the horse and in man than in dogs. Nysten mentions in his experiments, that the lungs were healthy; and Dr Cormack and M. Amussat, who attended particularly to this subject, state that the lungs were not emphysematous, as had been alleged.

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[1] Cases of Beauchêne and Dupuytren 1822.

[2] Delpech 1830, Ulrick, Roux 1836, Clement, Putegnat.

[3] Castara.

[4] Roux 1832.

4. *Symptoms occasioned by the presence of air in the venous system.*—In experiments upon animals, it has been observed that when the air first reaches the heart, its contractions are at first more rapid, but when it arrives in larger quantity, they become slower and feebler, the respirations become quicker and heaving, the animal gives indications of uneasiness, falls down, occasionally utters cries of distress, and dies in convulsions. The contents of the rectum and bladder are frequently expelled at the time of death. In a very few cases only is death from this cause not preceded by convulsions. Amussat mentions one example of this.[1] In some of the cases of death in the human species, attributed to the accidental entrance of air into the veins, the period of death was not only earlier, but some of the symptoms which uniformly precede death, in the lower animals, either did not occur, or were not observed. The constitutional symptoms which, according to Wattmann, (p. 55), rapidly follow the entrance of air into the veins in the human species, are the following:—" Speedy occurrence of syncope, which is either preceded by a cry, with the expression, 'I die,' 'I am dead,' 'I suffocate,' or by anxiety and tremblings, or without any such precursors. The syncope rapidly reaches such a degree, that all consciousness is lost, and the patient falls down, cold sweat breaks out on the forehead, and in a quarter of an hour, sometimes sooner, sometimes later, he is dead." The increased respiratory muscular movements which precede the loss of consciousness, and the convulsive movements which usher in death, so generally observed in experiments upon the lower animals, have been very seldom remarked in cases of accidental entrance of air in the human species. In the 15 cases forming Amussat's first and second series of facts observed in the human species, convulsive movements were only remarked in 5 of these. In one of the 5 (that of Beauchêne), the patient had slight convulsions; in Ulrich's case, slight convulsions of the face, and then episthotonos followed the sudden attack of syncope; in Roux's case in 1836, the patient became pale, then syncope occurred, followed by convulsions; in Mirault's case, the patient became pale, and had tremblings, with tetanic succussions; in Goulard's case, there was paleness, with convulsive movements of face, hiccough, and after some minutes death. That one of all these 15 cases which approaches nearest in the character of some of its constitutional symptoms to the experiments on the lower animals, was one of the two which occurred to Roux. At the time the sound indicating the entrance of air into a vein was heard, the patient uttered a plaintive cry, turned herself in an agitated manner in all directions in her bed, the inspirations became long and difficult, and the patient was ap-

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[1] Experiment 3, p. 11. Op. cit.

parently fast dying. She, however, revived, and died seven days afterwards. In some of the other cases, as in those of Castara, Delpech, and Barlow, the death is said to have taken place suddenly, without complaint, and without convulsive movement. In one of Dupuytren's cases (that of Nov. 1822), the patient cried out, "I am dead," was soon seized with sudden tremblings, then sank down upon her chair, and fell without movement and without life. Several of the cases, as we might have expected, are very imperfectly reported; for it is not to be supposed that the surgeon or his assistants should possess the coolness and time to watch narrowly the phenomena, when their minds were agitated by the threatened sudden dissolution of their patient, and their attention distracted by anxious attempts to save him.

5. *Cause of death.*—The older experimenters attributed death from the inflation of air into the veins, to distension of the right side of the heart, arresting its contractions, and some of them compared its condition to that of the bladder when over-distended with urine. Bichat maintained that death begins at the brain, and depends upon the circulation of frothy blood in the vessels of that organ. Nysten, Cormack, and Amussat have referred the death to the mechanical distension of the right side of the heart. Leroy and Piédagnel attributed it chiefly to emphysema of the lungs. Sir Charles Bell believed that the air, by circulating in the vessels of the medulla oblongata, annihilated the functions of that important portion of the central organs of the nervous system, and thus killed by arresting the respiratory muscular movements. Marchel de Calvi supposes that death is due to the action of the carbonic acid contained in the air,—a supposition which could be readily disproved by a reference to some of Nysten's experiments.[1] Bouillaud, in his report to the Academy, attributes the death partly to the distension of the right side of heart, and partly to the difficulty of transmitting the frothy blood through the lungs; and Mr Erichsen refers it entirely to the latter of these two causes. Wattmann (p. 70) gives at considerable length his explanation of the cause of death, which is much too long to transcribe. He attributes it partly to the disturbance and enfeeblement of the contractibility of the heart occasioned by the mechanical effects of the air in its cavities, partly to the derangement of the respiratory function, and partly to the circulation of blood mixed with air in the capillary vessels of the systemic circulation being unable to maintain the nutrition, and the vitality of the tissues, especially of such important organs as the brain, the spinal cord, the lungs, and the heart. We do not think it necessary to enter into any critical examination of the arguments advanced by the supporters of these different explanations of the cause of death, as the account which we have already given of the appearances observed after death, and the symptoms which preceded it, but more especially the former, enables us to

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[1] Opus cit., p. 81.

select the true one. As in almost all cases in dogs, in the majority of rabbits, and in individuals of the human species, and in a considerable number of horses and sheep killed either by the forced or the spontaneous entrance of air into the veins, no air was found in the left side of the heart, or in the arterial system, it is perfectly obvious that in all these cases the circulation of air in the arteries of the brain, and in the medulla oblongata, could not be the cause of death: for a thing which did not exist could not act. The theories of Bichat and Sir Charles Bell cannot therefore explain the cause of death in all or even the greater number of cases, and there is no evidence in their favour even in those cases where air was found in the left side of the heart, and in the arterial system, for in all these the right side of the heart was on an average as much distended with air or frothy blood, and the death was as rapid, as when the air was entirely confined to the right side of the heart, and the venous system. If, then, the rapid and great distension of the right side of the heart, and the arrestment of the circulation through the lungs, be sufficient to account for the sudden death, and of this there can be no doubt, and if, as we have seen, these conditions be found constantly present in all experiments worthy of confidence, it is quite unphilosophical to call in the agency of other causes to account for this effect, when we are already in possession of one sufficient for the purpose and admitting of general application, the more especially if the others are only occasionally present, there being, moreover, no facts to prove that even when present, they influence the results. We do not deny that the circulation of frothy blood in the arteries of the brain may produce death, and we can conceive some cases where the frothy blood may pass more readily through the capillaries of the lungs, as sometimes occurs in the horse, where the functions of the central organs of the nervous system might be seriously affected by the circulation of frothy blood in their capillary arteries. It is especially worthy of remark, however, that in Amussat's experiments the period of death did not appear to be hastened by the presence of air in the arterial system, and in those cases in which the air was confined to the right side of the heart and the venous system, the death was on an average equally rapid, and attended by the same symptoms as in those in which the air had reached the left side of the heart, and the arterial system. Besides, as far as we can judge from the result of experiments, the death would not be so rapid when the air enters the venous system, if it acted in this manner, and the symptoms preceding it would be somewhat different. When Nysten injected quantities of air into the carotids, the animals were seized with all the symptoms of apoplexy, became comatose, and did not die until the lapse of some hours. Professor J. Reid states[1] that he injected half an ounce (by measure) of air along the carotid artery towards the brain, and that this was followed by strong convulsions of the limbs and trunk, succeeded by coma, which continued for at least four hours before the animal died. He also adds, " I have repeated the experiment of blowing air along one of the carotids, or vertebrals, towards the brain, and always found that it produced convulsions and coma, lasting for some time before death. The quantity of air injected was from half an ounce to an ounce, and even more. The mode of death in such cases is very different from what I observed when air was injected *rapidly*, and in considerable quantity, into a vein leading directly to the heart, for it then kills by mechanically arresting the movements of the right side of the heart." Lest any one should be led into error by the application of the term syncope to the sudden cessation of the sensorial and respiratory functions, after a certain quantity of air has entered a vein in the human species, we may mention that it is, more correctly speaking, a sudden case of asphyxia arising from the rapid arrestment of the circulation of the blood. Amussat's patient, when describing the difference between his feeling in this state and in common syncope, for he had experienced both within a short time, said, that in the former, " le trouble ne vient pas d'en haut, il vient d'en bas." The supposition that when air enters the venous system in large quantities, it produces emphysema of the lungs, has been rendered completely untenable by the observations of Cormack and Amussat. We believe, then, that it cannot be doubted that when an animal dies from the immediate effects of the entrance of air into the venous system, this is caused by the arrestment of the circulation through the right side of the heart and the lungs. Two circumstances produce the sudden distension of the right side of the heart, and these are, 1*st*, The mechanical impediments to the circulation of the blood through the right side of the heart from the presence of a large quantity of an elastic fluid in its cavities; and, 2*dly*, The great difficulty, and in many cases impossibility of transmitting frothy blood through the capillaries of the lungs. The operation of the latter cause is illustrated by the experiments of Magendie and Dr Cormack upon the effects of injecting air into the mesenteric veins, in which it was shown that the air could not pass through the capillaries of the vena portarum; and also by an experiment of Mr Erichsen, who found that a pressure of from 1½ to 2 inches of mercury, was sufficient to propel beat bullock's blood through the pulmonary capillaries of a dog recently dead, while it required a pressure of from 3 to 3½ inches of mercury to drive the same blood when mixed with air through these vessels. In those cases in which the air enters rapidly and in great quantities, the distension of the right side of the heart may be suddenly produced, and be the primary cause of death, while, in those cases in which it enters more slowly, the distension of the right side of the heart may, to a considerable extent, be a secondary effect, and be produced chiefly by the difficulty it experiences in propelling the frothy blood through the lungs. By the agency of these two causes, the circulation of the blood is suddenly brought to a stand, and all the other vital functions are consequently rapidly suspended.

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[1] Experimental investigation into the functions of Eighth pair of nerves, Edin. Med. and Surgical Journal, No. 139, Expt. 28.

6. *Spontaneous entrance of air into the veins.*—The experiments of Amussat have demonstrated, that when an opening is made into certain veins in the domesticated animals, the atmospheric air may enter in quantities sufficient to produce death in a few minutes. This result in the normal condition of the part operated on, occurred only in the veins in which the respiratory flux and reflux of the blood were observed. These veins are placed in the anterior part of the neck, the superior part of the chest, and in the axilla, and consist of the jugulars, the subclavians, the axillary veins, and some of their larger branches at their termination near the summit of the chest. Amussat also points out that this dangerous space, "l'espace dangereuse," may be circumscribed by two semi-elliptical lines passing from one axilla to the other,—the one above the clavicles, and the other below them. This dangerous region may be extended by certain physical conditions of the veins, but before we can understand how these operate, it is necessary that we have a distinct knowledge of the causes which produce or facilitate the entrance of air into a vein, when an opening has been made in it. During expiration, when all the parts within the thorax are compressed, the large veins leading to it become turgid with blood, while, during inspiration, the compression of the parts in the interior of the thorax being removed, the atmospheric pressure is for a time less on the veins within the chest than on those outside it, the blood in the distended veins rushes onward towards the heart, and these veins consequently become collapsed. This respiratory flux and reflux is more or less extended, as the respiratory muscular movements are more or less forcible and prolonged. During inspiration, therefore, the blood is drawn into the interior of the thorax from the large veins in its immediate neighbourhood, and this sucking influence or *vis a fronte* would have extended to a greater distance from the chest, had the veins, like the trachea, been provided with walls capable of bearing off the atmospheric pressure. When we tie a tube like a vein upon the nozzle of a common injecting syringe, and attempt to draw water through it by pulling up the piston, we perceive that the part of the tube immediately in front of the nozzle of the syringe alone becomes empty, and that the water beyond this is prevented from passing onwards by the atmospheric pressure forcing together the walls of the tube. That air would be drawn through an opening in one of the large veins leading to the chest placed at points beyond the limits of this respiratory flux and reflux, were their coats capable of bearing off the atmospheric pressure, is proved by the experiments of Magendie and Amussat, who introduced tubes with resisting walls into an opening in the jugular, at some distance above this flux and reflux, and

found that when they were passed sufficiently far in the direction of the heart, the air readily entered the vein during each inspiratory movement. Wattmann, (p. 84,) as some other authors have done, conjoins the sucking influence of the right side of the heart to that of the respiratory movements in drawing air into the veins, and he attributes, like some of the older and even more modern physiologists, the relaxation or diastole of the heart, to a vital power of expansion. It would be easy, however, to show that the arrangement of the muscular fibres of the heart, and the phenomena attending muscular contractility, are at variance with the opinion that the relaxation of the heart is dependent upon any other than mechanical causes. A regurgitation, to a small extent, along the large veins entering the heart, is observed during each contraction of the right auricle, and this becomes more considerable when there is any impediment to the free passage of the blood through the right ventricle, or when the blood becomes stagnated in the veins, but the sucking influence of the right auricle must be so trifling that it can give very little aid to the sucking influence of the lungs. Amussat, in three experiments, found that when an opening was made into one side of the chest, the passage of the air into the opening in the vein ceased, and was immediately renewed when the opening in the chest was obstructed. Bérard thinks that this sucking influence is aided even in the normal state of the parts, by the mode in which the veins of the neck are connected to the fasciæ; and Sir Charles Bell has maintained, and in our opinion on good grounds, that the entrance of air into an opened vein at the lower and lateral parts of the neck, is much facilitated by the mechanical expansion of the veins during powerful contractions of the muscles of the neck, and the elevation of the shoulders in forced inspiration, a circumstance very likely to occur during an operation. From these facts it must be perfectly obvious, that when an opening is made into a vein in the proximity of the chest in the human species, atmospheric air may enter and pass on with the blood to the heart, for the same mechanical causes which effect this in the domesticated animals, must operate with equal force in man. It is also apparent that the circumstances which prevent the walls of the veins from being pressed together, by the weight of the atmosphere, must extend the limits of this dangerous region. The most common of these are the following:—The pulling and stretching of healthy veins by the manipulations of the operator or his assistants, or by the position of the muscles; the outer surface of the vein being surrounded by, and adhering to morbid deposits and growths; the thickening of the coats of the veins or the surrounding areolar tissue by inflammation or other causes; and the increased size and width of the smaller veins, as occurs in some cases of what have been termed aneurism by anastomosis. Wattmann, in enumerating various circumstances which enable us to explain the discrepancies in the accounts given of different cases of the accidental entrance of air, mentions among others the following:—1*st*, "The erect position of the patient during the operation; for the more the part operated on is placed higher than the heart, so much the less are the veins distended with blood, and so much the more readily will air enter them in greater quantity when opened, if at the same time their walls are prevented from being forced together by the atmospheric pressure. 2*d*. The partial division of the vein, permitting the air to pass on mixed with the blood which still continues to flow onwards to the heart, as I myself observed in the human species, and which Cormack and Mercier have also made mention of. 3*d*. The complete division of the vein allowing the air to enter in those cases where the central or proximal end gaps, or is kept expanded, and in such a case is Cormack's observation correct, that air unmixed with blood will rush on to the heart."

When air enters spontaneously by an opening in a vein, two sounds may be heard,—one depending upon the passage of air through the opening made in the vein—the other synchronous with the contractions of the heart, is caused by the intermixture of the blood and air in that organ. This second sound must, from its nature, be also present in those cases in which the air is forced into the vein, while the first can only be heard when it enters spontaneously. The first sound ceases immediately on obstructing the opening in the vein, while the second is not affected by this. Amussat describes the first sound as being faint (*un bruit peu fort*,) in rabbits; as a lapping sound (*bruit de lapement*,) in 3 out of 4 sheep, in the greater number of dogs, and much more rarely in the horse; as a gurgling or *glou glou* sound (*bruit de gargouillement ou glou glou*,) in 5 out of 17 horses, and in a very few cases in dogs. In one sheep he heard a clicking sound; in 6 of the horses he does not describe it specifically, but in 4 calls it a very loud sound, (*bruit très fort*,) and in 2 a peculiar sound (*bruit particulier*.) In 34 cases of the accidental entrance of air into the veins in the human species. collected by Wattmann, he says, (p. 47,) it is described as a hissing sound in 13;[1] as a gurgling or bubbling sound in 5;[2] a sound of aspiration (*bruit d'aspiration*,) in 2;[3] and a suction or strong snuffling sound in 1;[4] as a whizzing sound (*sausendesgeräusch*) in 1;[5] as a jerking sound (*bruit saccadé*) in 1;[6] as a peculiar sound (*eigenthümliches*,) in 1;[7] a deep sound (*tiefes*,) in 1;[8] as a rattling sound (*rasselades*,) in 1;[9] and in 8 the sound was either not present or not heard.[10] These differences in the sound must depend chiefly upon the size of the opening in the vein, the force with which the air enters, and upon the fact whether or not blood be flowing out at the opening while the air is entering. Wattmann has pointed out (p. 45,) that blood does not necessarily, as some seem to believe, flow from a cut vein. When there is no impediment to the onward passage of the blood, and when the vein is not quite full, as generally occurs when the part in which the vein runs is in a vertical position and above the level of the heart, and when less than half the circumference of the vein is cut through, the blood may not flow out at the opening in the vein.

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[1] Cases of Dupuytren, 3 by himself, Roux, Ulrich, Barlow, Pierre and Condorges. Delaporte, Malgaigne, Velpeau, Mirault, and Toulmouche.

[2] Castara, Warren in 2 cases, Begin, Pellis. [3] Clemot in 2 cases. [4] Delpech.

[5] Rigaud. [Rigaud, however, really describes the sound in these words, "J'entends alors un bruit d'aspiration de l'air par trois fois differentes."] [6] Amussat.

[7] Mott. [In the *Gazette Médicale* 1831, to which Wattmann refers for an account of this case, it is described not as a peculiar sound, but un bruit de gargouillement.]

[8] Beauchêne. [Piédagnel, in his account of this case, says, that the sound resembled the air entering a small opening in the chest of a living animal.]

[9] Mayor. [Mayor himself says, "bruit terrible de ronflement."]

[10] One of these 8 was a case of suicide, and there was no opportunity, even had a

The second sound, as we have already mentioned, is synchronous with the systole of the heart, and varies in character. Nysten described it as resembling the sound produced in beating up the white of an egg with water (*en battant ensemble du blanc d'oeuf avec de l'eau.*) Amussat in applying the stethoscope over the region of the heart in some of his experiments heard this sound, which varied in different cases, for he describes it as a *bruit de souffle*, *bruit humide*, *bruit de gargouillement*, *bruit de rape*, *bruit de coassement de grenouille*. This second sound has also been heard in some of the cases of the accidental entrance of air in the human species. In that of Delaporte it is stated, that "un bruitde siflement se fit entendre a tous les assistans *avec un gargouillement dans la poitrine*. The seven cases in which air entered the veins in the human species during operations, without any sound being remarked, cannot, says Wattmann, "diminish the certainty and importance of these sounds as signs of the entrance of air into the veins, for there are circumstances sufficient to explain why these sounds may not be heard even when present. To these belong the unexpected occurrence of this phenomenon, and its being overlooked when its signification was not yet known; and also a wider opening in the vein. I plainly remarked that the hissing sound ceased, as I separated the edges of a wound in the vein about the size of the opening generally made in venesection, wider from each other," p. 52. The characteristic phenomena attending the entrance of air into the veins in the human species, are, according to Wattmann, the following, " Want of bleeding from the opened vein in the erect position; in the horizontal position proportionally little hemorrhage; a loud sound occurring while making an incision; the moist sound (2d sound) may not on account of the threatened danger be observed; rapid appearance of constitutional symptoms, such as paleness, trembling, and deep syncope, sometimes anxiety and cries, convulsions very seldom and of short duration; speedy death; and on inspection of the body, air is found in the blood-vessels, more especially in the central organs of the circulation," p. 65. The observing the first sound is evidently a point of very great importance, as it indicates to the surgeon,

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sound been present, of hearing it. Wattmann, as we have seen from the above notes, has not classified quite accurately these cases according to the sounds heard. We may also further add, that in Malgaigne's case, it was a gurgling and not a hissing sound.

that very serious consequences are likely to happen, which may, however, be still entirely, or in a great measure prevented, by active and judicious management.

7. *Remedial measures to be employed against the consequences of the entrance of air into the veins, and for their prevention.*—These questions are treated of at great length by Wattmann, (p. 80.) After pointing out the methods of ascertaining whether when a sound of air rushing through an opening is heard, while the surgeon is operating on the lower and lateral part of the neck, comes from an opened vein or the sac of the pleura, he goes on to state, that when this comes from an opened vein, the surgeon has neither time nor opportunity to make any examination of the place whence it proceeds, for the patient is liable without loss of blood suddenly to fall into a syncope, with or without convulsions preceding, and is placed in the greatest danger. "It is enough to know, that *immediately after hearing the sound*, the opening from whence it proceeds should be shut by slight pressure of the point of the finger. Then draw the finger along the course of the vein toward the heart, sufficiently far to expose the opening to view. The sound ceases on the application of the compressing finger, and on exposing the opening in the vein, we observe blood flowing from it, or we see through the opening, appearances which indicate that it is placed in a vein, so that now no doubt can be entertained both regarding the wound in the vein and the entrance of the air. In many of the recorded cases of wounds of the veins in the dangerous region, death has occurred with surprising quickness; while in those cases where the entrance of air into the veins was soon arrested, the individuals were saved, and the same thing has been observed in the lower animals subjected to experiment. In this dangerous region, nature has no means of preventing the entrance of air into the veins, but beyond its limit the walls of the veins would be forced against each other by the atmospheric pressure, and the passage of air along the veins prevented. This hint given by nature can also advantage art, in bringing aid in these cases where nature cannot possibly help herself. Since the entrance of air alone through a wound in a vein, will occasion danger of life, and even sudden death, so can the indication of cure be no other than to *prevent the entrance of air into the veins as soon as the conditions for this are established, as rapidly and permanently as possible.* In so far as the conditions for the passage of air through the opening in the vein are concerned, this question also presents itself, how *to avoid wounding a vein in this dangerous region, with the view of escaping this risk.* The one object is therapeutical, the other is prophylactic. The means which have been brought into use for effecting the therapeutical object, are partly founded upon the remedial means applied in ordinary cases of wounded veins in the human species, partly upon the results obtained in experiments upon animals, and partly upon the different ideas entertained of the nature

of the deleterious agency of the air, and the ends which it is wished to obtain. The purposes wished to be attained have been—preventing the passage of air into the vein; removal of the air which has entered the vascular system; the withdrawing of a certain quantity of blood; and recovering from the syncope, many as Magendie, Nysten, Bouley, Mercier, Denot, wished to attain a single one of these ends, others more of them in combination." Wattman next proceeds to give a short account of the methods by which the various authors who have written on the subject, have attempted to attain the ends mentioned above. Under the section (p. 841) entitled *first method of obtaining the first purpose,* viz. preventing the entrance of air into the veins, he mentions the different recommendations to effect this; viz., limiting the extent of the respiratory movements, the application of external pressure to the chest and abdomen, bandages, and other means. Under the section entitled *second method of obtaining the first purpose,* he gives the different directions which have been laid down for preventing the entrance of air into the veins, without restraining the respiratory movements. This method consists in making pressure upon the opened vein: its great importance was first illustrated, the rules for its proper application explained, and its first practical application made in man by Wattmann himself. The *second purpose,* viz. The withdrawing of the air which has entered the venous system, has been attempted by external pressure upon the chest and abdomen during respiration, so as to force out part of the frothy blood through the opening in the vein; by opening a large vein at the summit of the chest and as near the heart as possible, to allow part of the frothy blood which regurgitates from the right ventricle at each contraction, when the blood ceases to pass freely through the lungs, and it becomes distended with blood; and by withdrawing the air and frothy blood from the heart by sucking it through a syringe, or through a tube, introduced into the opening in the vein, and carried downwards towards the heart. *The third purpose,* viz. that of withdrawing a quantity of blood, has been recommended by those who believe that the means adopted to withdraw the air is also useful in unloading the venous system and right side of the heart of their blood, and thus facilitating the efforts of the right ventricle to propel the blood through the lungs. For effecting the *fourth purpose,* viz. recovering from the syncope, all the means employed in syncope from other causes, have been used and recommended, such as placing the head in a horizontal or depending position, dashing cold water on the face, the application of stimulating vapours to the nostrils, &c. Artificial respiration has been also employed in a few of the cases, and Warren recommended that it should be kept up for half an hour or an hour. Mercier advises that pressure be applied to the abdominal aorta and axillary arteries, to send as large a quantity of blood as possible towards the brain, and he states that he succeeded in recovering a dog by this means.

As we have already exceeded the space originally destined for this review, we must reserve the observations we intended to make upon these different remedial measures until next number. We will then also take an opportunity of giving some account of the three cases successfully treated by Wattman, which appear to have hitherto been unknown out of Germany: and we will at the same time also examine the medico-legal questions connected with the entrance of air into the veins.

(To be concluded in next number.)

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1. *Report from her Majesty's Commissioners for inquiring into the Administration and practical Operation of the Poor Laws in Scotland. With* 3 *vols. of Evidence and Documents.* Folio.
2. *Observations on the Epidemic Fever of* 1843 *in Scotland, and its connection with the Destitute Condition of the Poor. By* William Pulteney Alison, M.D., F.R.S.E., &c., *Professor of the Practice of Medicine in the University of Edinburgh.* 8vo. Edin., 1844.
3. *Facts and Observations on the Sanatory State of Glasgow during the last year. With Statistical Tables of the late Epidemic, showing the connection existing between Poverty, Disease, and Crime. By* Robert Perry, M.D., *President of the Faculty of Physicians and Surgeons, Senior Physician to the Glasgow Royal Infirmary, &c. With an Appendix containing Reports from the District Surgeons. &c. &c. &c.* 12mo, pp. 37. Glasgow: 1844.
4. *Observations on the Prevalence of Epidemic Fever in Edinburgh and Glasgow; and means suggested for improving the Sanatory Condition of the Poor. By* Robert Deuchar, *Secretary to the Edinburgh Fever Board.* 8vo. pp. 16. Edin., 1844.

So soon as we learned that the Commission appointed to inquire into the administration and working of the Poor Laws in Scotland, consisted of two Scottish peers, two landed gentlemen, two clergymen, one of the Established and one of the Free Church of Scotland, and one English barrister, we augured unfavourably of the final result of the investigation. So far as the Report is concerned, we have unfortunately had our prediction verified to the letter. The inquiry, however, has had the effect of collecting together an invaluable mass of evidence as to the present condition of the Scottish poor, which, we feel assured, will bring the condition of our unfortunate brethren forcibly before parties who have less personal interest in the operation of the present poor laws than the two Peers and the two landed proprietors, and who are less prejudiced in favour of the existing state of matters than the two reverend Commissioners, and who will give a calm and deliberate consideration to the "Reasons of Dissent" which have been so ably tendered by Edward Twisleton, the English barrister.

In a less crowded state of our pages, we would have felt inclined to have entered upon the consideration of the report generally, but at present we must confine ourselves to those parts of it which refer to matters medical, and which are perhaps the most questionable of the whole performance. One would have naturally supposed that, at least, one member of the medical profession would have been placed on a commission of this sort. There is certainly no calling in life which affords a greater facility of ascertaining the condition of paupers than that of the medical practitioner. He sees them when all attempts at subterfuge and deception are laid aside. He sees the honest portion of them struggling to maintain an honest livelihood under every variety of circumstance, and hence, we think he would have been more successful in eliciting the whole truth than any of the parties connected with the commission, who, we think, have overlooked some very important and essential particulars, bearing on the question of the poor laws, which must have been got at, had there been one of the commission selected from our profession.

As has been already hinted, the members of this commission are not perfectly unanimous respecting the recommendations contained in the report. Lords Melville, and Belhaven, Messrs Home Drummond, and James Campbell, with the Rev. Drs Patrick Macfarlane, and James Robertson, concur, "although not without considerable doubts and difficulties," in laying it before her Majesty; while Mr Twisleton dissents from their conclusions, and tenders eight reasons of dissent. The duties of the commission have been exceedingly arduous, and the difficulty in coming to a determination must have been very great, in consequence of the discrepancy in the evidence and statements tendered to them. In proof of these averments, we may briefly allude to one subject of inquiry which bears upon medicine, viz.—the evidence adduced as to the quantum of allowance necessary to support a human being in life and health. Queries tending to elicit the truth respecting this very important question seem to have been rarely put to the professional witnesses. Dr Handyside, however, (who designates himself "Secretary to the association for obtaining an official inquiry into pauperism in Scotland,") was examined at an early part of the investigation, and his evidence may probably have induced the commissioners to imagine, that those learned in the physiology of digestion were not the parties best suited to enlighten them as to the least possible cost of keeping the human machine in a proper working condition. But let our readers judge for themselves, how far such a supposition may be based in truth. Dr Handyside says—"I would, with regard to a father and mother with four children under ten, at the working period of life, say from observation, that 3s. 6d. or 3s. a-week might make them comfortable."[1] We know not with what Dr H. associates his ideas of "*comfort*;" and would like much to know how he would appropriate the munificent aliment. Let us try to do this for him. Say 1s. per week for lodgings for the family; 1s. for food to the two parents "at the working period of life;" 3d. for each of the children; and lastly, 6d. per week to clothe the whole establishment. Now, let us ask any medical man who has ever inquired the price of the necessaries of life, or who has accidentally glanced at the "average weekly prices current," if such a sum is sufficient to "maintain health," or even to keep soul and body together? But let us learn from the doctor the source from which his observation is derived.—"You referred to a case which was known to Sir George Warrender? It is the case of a poor paralytic from Dunbar, a man thirty-six years of age, with a wife and three children. He was met by Sir George Warrender on the Haddington road. He stated that he had only 1s. a-week,—an insufficient allowance. Sir George asked him where he was going. 'Oh, to Edinburgh,' was his reply. Many come, like this man, to Edinburgh for a subsistence on charity. We have not many statistical facts with regard to such cases; but the children often beg for a time, and then they steal. I may mention, however, when asked about the lowest possible sum to support an adult man, that perhaps 1s. might do for a single man. I know a man (that is the man Forbes,) with whom we had considerable difficulty with reference to his settlement. He says, 'I can do very well with 1s. per week;' he has a pretty comfortable place with his sister. He says 6d. goes for nourishment,—very coarse indeed, but yet sufficient. For a week? Oh yes; sometimes he has not more than a roll a-day; he has no other sources but that 1s. I consider 2s. 6d. the lowest sum on which a man with a family of four children might be supported, exclusive of house and clothing.[2]"

Now, Sir George Warrender might be excused for believing that a roll a-day could support a man in health, but, for the sake of our reputation as a profession, we would recommend Dr H. to make some slight inquiry both as to the quantity and the price of the food necessary for a human being, in case he should be again brought to give evidence on this subject. It might be a very good way to settle the question, to try the experiment of living on sixpence per week, for one month, and we venture to think, that if our respected friend succeed in maintaining health, he must indeed be a very *moderate* man. Did Dr Handyside ever hear of the fable of the horse and a straw a-day?—But fortunately men of some worldly experience were called before the Commission.

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[1] Appendix, part i., page 136, question 2376.

[2] Appendix, part i., page 139, question 2417, 8, 9.

Mr Sheriff Alison says, "I think a man with a wife and two children, who could not get into the manufactories, could not possibly be kept above almost a total state of destitution under 5s. or 6s., at the very least 4s. a-week, that is, supposing none of them could find work; and the allowance should be increased in proportion to the number of the family not at work."

Mr Alexander Macaulay, one of the town-councillors of Edinburgh, says "To prevent stealing, and save from downright starvation, 5s. a-week would be necessary."

The Rev. Mr Brewster considers 4s. 6d. a-week necessary for an old man past work.

Dr Willis thinks an old man should have 1s. per day.

Dr Forbes considers 3s. 6d. a-week necessary in the same circumstances.

These few specimens of the evidence show that the *quantum* of allowance considered necessary, varies as six to one, or from 1s. to 6s. When we find such a difference of opinion existing between the surgeon of an Infirmary, the sheriff of a county, and several eminent divines, we cannot help regretting that the protection which the poor at present enjoy,—the appeal to the Court of Session, is proposed to be abolished. If government ever acts upon the suggestions contained in this report, Dr Handyside will doubtless see his evidence oftener quoted than he would like, and for purposes which, we know, he would be the last to defend; we therefore, fully concur in the second reason of dissent tendered by Mr Twisleton, viz.:—

"Because, while it is admitted that the provision at present made for the relief of the aged and infirm poor, is in many parishes of Scotland inadequate, the main reliance for the supply of this deficiency seems to be placed on a proposed board of supervision or Standing Commission of Inquiry, with ample powers of inspection, but with no administrative control or direct authority. But it appears to me, that the striking inadequacy of the allowances at present made to the aged and infirm poor in a large proportion of the unassessed rural parishes of Scotland, arises, not so much from ignorance of facts, as from want of funds, which again is owing, in no small degree, to theorics respecting the effect of any provision for the poor, even when it is restricted to the relief of the aged and the infirm. And any statements made annually in reports tending to show that this class of poor are in a destitute condition, will be met by the usual answer, that the only cure for such evils, is in the moral and religious education of the young; and that a provision for the poor creates much of the misery which it relieves, but does not relieve all the misery which it creates."

It is abundantly manifest from a perusal of the evidence of the medical witnesses, that with a few exceptions, the care of the pauper population in Scotland during the prevalence of epidemics, as well as during ordinary periods of sickness, has fallen exclusively upon the medical practitioners and a few charitable individuals. The commissioners think, however, that "it cannot be said, in point of fact, that the poor suffer materially from the want of medical aid." An examination of the whole evidence, and some experience in districts where sick paupers are left systematically to the charity of the resident practitioners, have led us to the firm conviction that the poor not only suffer *materially* from the want of medical aid and medicines, but that the ravages of epidemics are rendered ten times more virulent and more extended over districts, from the want of proper pauper supervision and regulations. It not unfrequently happens, that the heads of a family, or its bread-gainers, are laid up with fever: During the enjoyment of health, and while fully occupied, they could barely scrape together the means of supporting life, and when they are suddenly disabled by disease, what can they do? Why, they must send the members of their families either to beg or steal, or, when opportunity occurs, to follow both avocations.

We have frequently seen the one-half of a family confined with fever, and the other perambulating the country for their support; and not unfrequently have we known the former rise from bed to beg for the support of the latter, when they, in due course, were laid prostrate. The consequences of such procedure, (which we aver is common enough,) is, that habits of the worst description are engendered, while the contagion is propagated far and wide.

The commissioners are by no means supported by the evidence, in asserting that the poor do not suffer *materially* from the want of medical aid. It is no doubt true that medical men are by far more charitable than any other class of the community; they devote more of their time, and expend a greater share of their limited income, in behalf of the indigent, than in ordinary fairness can be expected of them; still they must keep themselves alive, and cannot afford to give their time on all occasions, far less the medicines necessary for the cure of the patients they are called on to attend. In support of these statements we may refer to the medical portion of the proof, as a whole; but for the benefit of those who may not have access to the three ponderous volumes before us, we give the following quotations. *Dr James B. Wharrie* of Hamilton,—a gentleman whom we know to have devoted upwards of 20 years to the treatment of all classes of the community—to the pauper as readily as to the aristocrat,—says, "medical practitioners are put to considerable expense in loss of time, and in furnishing medicines to the poor; and they cannot, in general, afford to give the most expensive medicines, *although they should be necessary*."[1]

L. M. Matheson, Esq., one of two practitioners in the Isle of Skye, says, that "Dr Macleod and himself are the only two practitioners in Skye. They could not give sufficient time to the poor, *unless they became independent of practice*. It is impossible they can be furnished with proper medicines, unless some fund is provided for that purpose."[2]

James Storrer, Esq., Kirkcaldy, says, "I have frequently experienced a difficulty in treating their cases properly, from being unable to supply them with nutritious diet. From want of such diet, diseases have often been produced, and their cure has often been retarded. I think likewise that a better provision should be made for supplying them with medical relief. I may add, that at present the attendance on the sick poor is a heavy tax on the time and the means of medical men. It is a particular grievance, that we should be required to furnish medicines to them gratis. If we attend the sick poor gratuitously, it may at least be fairly required from the kirk-session that they should defray the druggists' bills; but besides this, it is unreasonable to require of us that we should give our attendance on the poor altogether gratuitously. We are willing to give all that we can to relieve the poor; but still, advantage should not be taken of our liberality in this respect to save the funds of the session."

William Gibson, Esq., Dalry, testifies, "When labouring under disease they depend principally on private charity. If I did not apply for aid in their behalf to opulent individuals in the town, the paupers would suffer extreme privations, and, as far as their allowances are concerned, they might starve. I have never yet applied to an individual heritor without obtaining what I required, but I cannot say that of the heritors collectively; and it is placing me in a very disagreeable position to oblige me to go to beg for poor patients. The parish does not generally allow nutritious diet to paupers in sickness."

Is it necessary to adduce further testimony on this point? We think not. Is it fair that medical men should devote their time, (which is in reality their capital,) bestow the medicines, &c. &c. necessary during times of sickness, or beg nutriment during the convalescence in behalf of sick paupers? We assuredly think they cannot engage in duties of such a multifarious character, without seriously infringing upon those hours which they must necessarily devote to remunerative practice, unless, to use the words of Mr Matheson, "*they become independent of practice*." But the commissioners *do* recommend some alteration in the law regarding the remuneration of medical men in attendance on sick paupers: they propose "*That medical relief should be applied more extensively to the poor, and that this should form a proper charge upon the poors' funds?*"[1] But who do they recommend to fix the *proper charge?* "We do not," say they, "attempt to lay down any fixed rule or plan for enlarged medical relief. The scheme to be adopted, we would leave in the hands of each parochial board of management, since what works well in one parish may be very ill suited to another."[2] If parliament do not fix the *proper charge*, we feel too certain the lowest fee for which any medical man can be found to do the duty, however imperfectly, will be generally considered by heritors and kirk-sessions, (who are really the interested parties,) *the proper remuneration*. In fact, the system of medical estimate, although not pointedly recommended, is decidedly the favourite in the eye of this commission. They bring forth in a prominent point of view the recommendation of the Duke of Richmond in favour of medical clubs. The peculiarities of such clubs do no where appear; but if we may judge of what we have seen of institutions for a similar purpose in some parts of Scotland, we hesitate not to say, that instead of relieving paupers, (what pauper can even afford to subscribe to any club?) they are calculated to lower the junior portion of the medical profession to *the grade of paupers*,—to degrade a man of alleged liberal education to the level of coal heavers, city porters, *et hoc genus omne*. We refer to the societies of Odd Fellows, which have recently sprung up in every quarter of Scotland. These institutions, we are informed, require the *use* of a medical man, who must at certain stated periods meet his *brethren in general*, as personal friends; *hail fellows, well met!* We know many very well informed members of our profession who have been *compelled* to join such despicable establishments in pure *self-defence*. They found that their next-door neighbour who became the surgeon to the "*Lodge*," under the condition of attending all the sick members of the body *for the very moderate sum of 2s. 6d. per annum*, generally contrived to insinuate himself into the good graces of the fair portion of the household; and hence, we say, they were forced to meet their competitors for practice with equal weapons.

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[1] Appendix part iii. p. 377. [2] Ibid. part ii. p. 395. Ibid. part iii. p. 341.

Supposing such clubs as the Duke of Richmond recommends were established in every village and hamlet of our land, how long would they continue to work! Why, the very first strike, the very first depression of trade, would terminate their usefulness, even to the working classes; and, so far as regards paupers, they must be *ab initio* inefficient, solely because a pauper could not, although willing, subscribe his mite. The professional *aid* which such societies can command is generally not of the best kind; in fact, he who offers his services at the lowest rate is generally accepted. At no very remote period, we are well informed, that a surgeon to one of the multifarious orders of *Odd Fellows* or *Druids* was requested to lower his price—or retire. He chose the latter alternative, and in less than 24 hours, several medical candidates offered their services to the club at 1s. annually *per caput*! After this, who would insult a medical man by offering him a fee!!

Before leaving the commissioners and their report, we think it necessary to state, that vaccination, in general, appears to be grossly neglected.

Dr Wharrie, resident within eleven miles of Glasgow, states, that "there is no provision for vaccination in the parish of Hamilton; *it is a matter of accident whether the children of the poor are vaccinated or not*. They depend entirely upon the gratuitous services of the medical men or of midwives, and witness thinks there must be a number who are not vaccinated."

We will content ourselves with two more quotations, and we intentionally select the testimony of parties resident in the remote Highlands:—

L. M. Matheson, Esq., testifies, that "none are vaccinated but those whom medical men vaccinate gratuitously. About three years ago, he went 20 miles distance from Portree, and vaccinated 87 children *gratuitously*."[3]

Dr D. Macleod states, "That the poor people generally have not their children vaccinated,—they have no means of having it done, except when he does for them gratuitously; and they don't seem very anxious about it, except hen small-pox comes amongst them. Small-pox occurs very often, though it as not done so this year; young persons going to Glasgow in search of hearing, or other work in the low country, *catch the infection, bring it home, nd it spreads.*"[1]

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[1] Page 26.

[2] Ibid.

[3] Appendix, part ii. p. 393.

We recommend our readers to examine the evidence contained in the ppendix carefully: and we feel assured they will be convinced, by the persal of it, that the condition of the paupers over all Scotland, absolutely calls r some legislative interference to provide proper and efficient medical aid in ime of sickness, and to secure them against the ravages of small-pox, by regur systematic vaccination. For ourselves, we fully concur in the statements ontained in the fourth reason of dissent, tendered by Mr Twisleton, viz. :—

"Because it is not proposed to render it compulsory on the Managers of the oor to provide medical attendance for paupers. The arrangements for medial relief, and the power of fixing the scale of remuneration to medical pracitioners, are to be left exclusively to the local authorities, who deem that they ave a direct pecuniary interest in fixing the scale of remuneration as low as ossible, or in throwing altogether upon medical practitioners, as is very freuently the case at present, the burden of attending the sick poor gratuitously."

For a long period of years Dr Alison has devoted the energies of his mind nd body, in attempting to ameliorate the condition of the suffering poor, by estowing his personal attendance during sickness, affording pecuniary aid with free, and, we hope, judicious hand, and by bringing forcibly before the public nd the rulers of the land, their wants, their sufferings, and the claims they ave as starving fellow-men on their wealthier brethren. His labours of pure hilanthropy have won for him the delightful reputation of being the "poor an's friend."

Dr Alison's views have been so often brought before the notice both of the eneral and professional inquirer, that it would be a work of supererogation to nter fully upon their consideration here; the more especially after the remarks which we have made on the report of the Poor Law Commissioners. He beieves that *destitution* is an inadequate cause for the *generation* of fever,—that t is not the sole cause of its extension, but that it is *one* cause of the diffusion f fever. To use his own language, "admitting that there are other known auses by which the extension of fever is frequently determined,—and admiting also that epidemics of fever, like those of small-pox or measles, arise, exend themselves, and decline, *independently of the operation* of any known cause, —I have stated, and still maintain, that the effect of *this* cause on such epidemics is so great and so well ascertained, that the repeated production and rapid xtension of *contagious* fever in any community, may always excite suspicion f the provisions against destitution there being imperfect; and that where such xtension of the disease is found by repeated experience *chiefly to affect the oorest classes of the community*, and spread upwards, it may even be held as *a test* of the inadequacy and inefficacy of the measures there adopted, for the relief of that poverty and suffering, which, as we are warned by Scripture, and farther instructed by the experience of all nations, are "never to cease out of the land."[2]

We fear we do not quite comprehend the meaning of the passage just quoted. We are at a loss to comprehend how a *contagious* fever can arise and extend itself, independently of any known cause. If it be *independent of any known cause*, then it is not contagious, and if it be *contagious*, then its cause is undoubtedly contagion and nothing else. Again, it is well known that all epidemic fevers, and most especially typhus fever, invariably affect *chiefly* the poorest classes. Plague, pestilence, and famine all go hand in hand. This fact, however, instead of proving that fever is a contagious disease, which propagates itself most readily where destitution exists, is one of the strong arguments of the *non*-contagionists. We believe, from personal observation, that it is the

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[1] Appendix, part ii. p. 394.

[2] Page 2.

overcrowding of the poor—the close contact into which their poverty brings them with one another—that is the true cause of the spread of most epidemics in Edinburgh and Glasgow.

To those who assert that, in consistency with his principle, the fever might have been expected to have extended more than it actually did in Glasgow, Paisley, &c.; Dr Alison replies, that the mild character and limited diffusion may be held as indications of the epidemic ("which has never fully subsided since 1837,") being on the decline; that the amount of voluntary charity has been greater, and consequently the poor better provided for, and that there has been a greater *immigration* of strangers into those towns where funds were provided for the unemployed; "and we know that strangers, newly arrived at any town, are always persons peculiarly adapted for the reception and extension of epidemic disease."[1] Now, it is undeniable, that strangers of the lower class, newly arrived in towns, whether hale or sickly, well fed or ill fed, are very liable to suffer from the poison of fever. But this fact only proves that their means are not sufficiently ample to enable them to take other lodgings than those frequented and crowded by the poor, which, in Edinburgh at least, during epidemics of fever, we know to be the very *foci* of contagion.

We cannot agree with the substance of the following paragraph; we give it therefore as it stands that we may not misinterpret its meaning:

"But, in accordance with the principles which I have stated above, and which are exactly the same as stated formerly (*Management of the Poor in Scotland*, 2d edit., p. 10), it will be at once perceived, that the relation which I maintain to exist between destitution and fever is not simply that of cause and effect, but that of *predisposition*, favouring the effect of another cause, *which is essentially variable*. Where destitution exists, it prepares victims for fever, but the fever '*bides its time*.' It springs from a specific contagion (at least, that is the only source from which we are sure that it springs), which rises and falls in intensity from various causes, known and unknown; but when, in the course of these fluctuations, it invades a community where there is a large amount of misery and destitution, its extension there is, *cæteris paribus*, much greater than elsewhere."[2]

It is quite correct that destitution only *predisposes* to fever, just as it predisposes to all epidemics. The other cause, it seems, is "essentially variable," and yet, according to Dr Alison, it is a "*specific contagion*." "*Specific*" is diametrically opposed to "*essentially variable*"—it is something *distinct, determinate, fixed*, and *invariable*. It is impossible, therefore, that the cause of typhus fever can be "essentially variable," and at the same time a "specific contagion." We have neither time nor space, at present, to prove our opinions on this subject, but we may state them in one word. Perhaps in the main they do not differ much from Dr Alison. We hold that the cause of typhus fever, and of the other fever lately so prevalent, is, in each case, a specific poison, which will generate the disease in most persons submitted to it in the concentrated form in which it exists in hospitals and crowded lodgings.

The author, after giving several very interesting tables, showing the proportion of patients who were employed at the time of seizure, remarks;—"I beg it may be observed, that in this, as in other instances, I do not assert that destitution is the sole cause of this remarkable extension of fever; but I believe that a very simple calculation of chances is sufficient to *demonstrate*, that the above results could not have been obtained from so large a number of cases, unless the circumstance of destitution had been *one of the conditions* on which their taking the fever had depended."

We believe the facts, reasoning, and conclusion are correct; but they only prove, what has never been denied, that the poor are the great sufferers from epidemics of all kinds,—but they do not necessarily prove that it is destitution. First, *admit* that *destitution* is *the* great cause of the spread of fever, and then the tables he gives would be strong proof of its correctness. But *admit* that the want of *physical exertion* and *mental exercise* is the great cause of fever, and the same tables might be triumphantly quoted in support of such an absurd opinion. This shows the danger of first *assuming* a point, and then bringing forth supposed facts in support of it.

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[1] Page 4.

[2] Ibid.

We are often asked,—"Why does fever seldom spread among the better classes?" Dr Alison replies,—"I have had many opportunities, in this, as in other epidemics of fever in Edinburgh, of observing, that there is no kind of locality to which the fever particularly attaches itself. The highest stories of some of the highest houses in the High Street and Canongate, and the lowest stories of some of the lowest in the Cowgate and Grassmarket, have been equally affected. I have named almost all the closes, stairs, and lands, in which the fever has chiefly prevailed, before I saw any of the patients there, (although many of these are changed since former epidemics), simply from knowing that there are inhabited by the poorest of the people; and from the conviction that this fever, like others that I have seen in Edinburgh, and like those described by Dr Cowan in Glasgow, and Dr Sym in Ayr, would 'fix on the destitute wherever it found them.'" Now, we would make this correction, and say—"would fix equally on rich and poor who may be subjected to the influence of the poison in an undiluted form, there being some additional chances of escape in favour of those who are well clothed and fed." We, therefore, say that, besides other comforts, the poor of our towns are in urgent want of *fresh air*. If we rest contented with remedying the evils which Dr Alison includes under the term "*destitution*," epidemic fever will continue to spread, but if, along with this, the poor are made to live in well-ventilated, and not unduly crowded houses, it will generally admit of easy isolation.

Dr Alison thinks that the misfortunes under which the poor labour are not by any means generally referable to their own misconduct, and adduces in proof of his opinion a letter from Mr Johnston, in which occurs the following statement:—"The cry, that drink is the sole cause of distress, comes only from those who wish some kind of an excuse for withholding their means; it could never come from those who have taken the trouble to investigate its causes."[1] Here there is some truth: for we know that destitution is often the cause of dissipation.

The small number of benevolent individuals makes the burden of supporting the poor during the prevalence of an epidemic, press very heavily upon those who contribute. Dr Alison therefore insists on the necessity of some legislative provision for the unemployed, though able-bodied poor. Dr Chalmers and his followers would point to the encouragement that should thereby be given to *idleness*, or, at least, to *diminished exertion*, and the destruction of the *independent* spirit of the Scottish poor. Without entering upon this *questio vexata*, we think the arguments of both parties clearly prove, that the *expense of maintaining* and treating fever patients in hospitals, &c. during epidemics, ought to be borne by a general assessment, and not solely by private benevolence, as at present. Hospital accommodation, proportionate to the size of a town should always be had in readiness, so that it might be opened speedily, before disease can spread.

But mere hospital accommodation for the recovery of the fever patients is not enough. They must be looked after, till they are able to resume their ordinary occupation; and those who have been made orphans or homeless by the pestilence, must not be sent adrift on the town, to beg, steal, or starve. Every place, therefore, liable to the ravages of epidemic disease, ought to be provided with a convalescent hospital, as well as a fever house. On this subject, Dr Cormack has the following remarks in his *Treatise on the Epidemic of* 1843.

"Often have I known that heads of families, dismissed in good health, but too feeble to resume their employments, have gone back to their cheerless homes, only to pledge the few articles of furniture which they possessed, and thus at once to get involved in difficulties, from which they never could extricate themselves.

"I cannot imagine anything which would have a more powerful effect in repressing juvenile prostitution, theft, and kindred delinquencies, as well as in preventing the spread of careless poverty, and its constant companion, desolating disease—than a large and well-managed CONVALESCENT HOSPITAL. Is there no influential citizen in Edinburgh of sufficient energy to move the public in good earnest, in behalf of so noble an enterprise?" P. 170.

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[1] Page 18.

It seems unnecessary to follow out Dr Alison's views in the remainder of the book. He argues strongly, as in former works, for a *right to relief* to all the destitute, from whatever cause their destitution may have arisen.

The appendix contains two interesting papers, entitled, 1st, Note on the application of the English Poor-Law, to the manufacturing districts. 2d, Note on the management of the poor in Berlin, as explained by Mr Laing, in his *Notes of a Traveller*. The author's remarks on these documents all tend to prove his position—the necessity for a legal provision for the Scottish poor. The details of his plan for applying the English Poor-Law to the manufacturing districts appear correct.

The mode of managing the poor in some parts of Prussia, may be read with interest and advantage; the following presents a picture very different from what is seen in most of our Scottish towns:—

"The parish of Montreux is divided into three communes; in one of these, Veytaux, there is not a single pauper, *although there is an accumulated poor-fund*, and the village is of sufficient importance to have its post-office, its fire-engine, and watchmen, and has a landward population around. The parish is one of the best cultivated vineyards in Europe, and is divided in very small portions among a great body of small proprietors. These small proprietors, with their sons and daughters, work on their own land, know exactly what it produces, and whether the land can support two families or not. Their standard of living is high; they are well lodged, their houses well furnished, and they live well, although they are working men. There is no chance living, all that is wanted is supplied; and until a vacancy naturally opens, in which a labourer and his wife can find work and house-room, he *cannot marry*. The *economical restraint is quite as strong among the labourers as among the proprietors*."[1]

We would like to know the state of morality in such places as Montreux. What is the number of illegitimate births? In England, where they are as one *to sixteen*, illegitimacy is one of the most fruitful sources of penury and crime.[2]

Dr Alison, in a postscript, dated May 1844, makes some important additional statements. He gives in a tabular form the extent and progress of the fever, and the funds raised for the support of those labouring under it, and although he has cause to praise the exertions of the benevolent, he thinks the means adopted for the *prevention*, have been lamentably unsuccessful, partial, irregular, and defective.

Repeated observation has convinced Dr A. of the correctness of the general opinion, that there were in Scotland *two specific poisons*, the one giving rise to the fever of 1843, described by himself, Dr Cormack, &c.; and the other producing the disease marked with the typhoid eruption. In support of his opinion he advances the following statement:—

"That the two poisons are distinct, we judge from this fact, repeatedly and carefully observed, that a well-marked case of either form of fever, occurring in any locality previously unaffected, is followed by a succession of others, within narrow limits of space and time, all presenting the same characters, although occurring in different families, and, of course, in a great variety of constitutions; which would not be the case if the two forms of the disease were merely varieties resulting from the same poison."[3]

After adducing some statistics, Dr Alison says, "The general result of the table is, that of 47 inhabitants, in the two highest flats, 37 took fever, and 10 escaped; while of 50 inhabitants, in the three lower flats, only 5 took fever, and 45 escaped."[4]

This table may prove exactly either the one or the other, according to the pre-conceived notion of the inquirer, viz., that the individuals in the lower flats had better ventilated houses, and kept them cleaner, or that they were better off, and had more to eat.

It must be remembered that the epidemic made its appearance just at a time when the working classes were pretty well employed, *after* a year or two of depressed trade. Dr Alison turns every circumstance to the advantage of the argument in favour of his particular views; and premising that we do not agree with him in every respect, we give the following passage entire.

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[1] Page 51.

[2] "Of 248,554 children registered, 15,839 were illegitimate;" *i.e.* 1 in 16 or 64 in 1000. In France the proportion is 71 in 1000.—*Annual Report of the Register General for* 1843, p. 10.

[3] Page 60.

[4] Page 65.

"That so much destitution should exist in a year of returning prosperity, when the whole circumstances of the case are considered, is easily understood. A part of the destitute poor consists of those who are unable for work, or able only for 'light work,' for which the demand has not increased; another portion consists of persons able for work, but, sometimes from misconduct, sometimes from misfortune, not yet employed —or belonging to trades in which the depression still exists,—and who, a year before, would have been supported by the charity funds; and a third portion have regained employment so recently, that they are still destitute of all comforts. Nay, I am informed, that it has often been observed in Glasgow, as I have myself observed here, that upon men weakened by the privations of a long want of employment, the return to their usual habits of muscular exertion has proved the exciting cause of fever."[1]

The remainder of the Postscript is principally occupied with extracts from the pamphlet we are about to speak of.

We are induced to notice Dr Perry's pamphlet, not only on account of the paramount importance of the subject of which it treats, but also in consequence of the fact, that the author has had very peculiar facilities of acquiring information, and is pretty generally known to have investigated the subject of *Fever* with very great attention. Dr Perry has been engaged in the active practice of his profession in the city of which he now gives this "Sanatory State," for a period of 34 years, and he has been officially connected with its Royal Infirmary for 25 years; so that his "facts and observations" are deduced from a most extensive sphere of experience, and ought to be studied carefully by every inhabitant of Glasgow who has the weal of his fellow-citizens at heart.

The aim and object of the pamphlet appear to us to be fourfold. The author wishes to prove, 1st. That the Epidemic fever, of which so much has been said and written, was the result of the privations and destitution of the poorer classes. 2d. That a poor law is necessary for the support in hospitals of the poor, afflicted with epidemic fever. 3d, That a board of health should be established in every large city, headed by a medical inspector; and, 4th, That hospital accommodation for epidemic fever should be provided and kept in readiness for any emergency which may occur.

The writer does not discuss the various topics quite so systematically as we could desire, but by leaving out the matter which appears somewhat irrelevant and superfluous, we will give our readers the advantage of his experience, and counsels.

For the two years preceding the appearance of this epidemic fever, the poorer classes in the city of Glasgow had suffered great privations in the comforts of life, and therefore, Dr P. thinks, were less able to resist "the external influences of an injurious tendency." In January and February, 1843, catarrhal affections, complicated with biliary derangements, were unusually prevalent. It was observed, that the most delicate class of patients were seized with rigors and exacerbation of fever after very trifling exposure, such as opening a window for the purpose of ventilation. As the season advanced, the cases became more numerous and the symptoms more urgent; severe headach, vomiting of bilious matter, and yellowness of the eyes and skin, were observed before the nature of the epidemic was understood, and consequently several of these cases were admitted as cases of jaundice.

In the author's description of the symptoms and sequelæ of the disease, we cannot discover anything which is not already known. He does not agree with those who assert that a fever of a similar character prevailed in this country in 1818; although he has been an attentive observer for upwards of thirty years, he has never witnessed a similar disorder. This statement of Dr Perry, when viewed in connection with the descriptions of the then prevailing epidemic, by Christison, Welsh, and others, has greatly astonished us.

He thus discusses the question,—What is the cause of the present epidemic? Respecting the immediate cause of any epidemic disease with which a community may be visited, very little satisfactory information has hitherto been obtained;

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[1] Page 71.

so that to give a definite answer in our present state of knowledge is beyond our power. Attempts have indeed been made; and those who have the least experience generally speak with most certainty on the subject. At present it is the fashion to ascribe every epidemic, whether malignant fever, cholera, dysentery, or influenza, to malaria arising from decaying animal or vegetable substances, owing to the want of sewers for carrying off such substances, and the scanty supply of water. There are perhaps few places better supplied with water than Glasgow; and I have observed on more than one occasion during the prevalence of malignant fever, that its progress was equally rapid and violent during a period of intense frost, when everything has been covered with snow, and the whole liquid substances in the streets firmly bound up for weeks together, without the possibility of any putrefaction going on. This was particularly the case in 1837, when the frost continued very intense for upwards of six weeks, when the number of fever cases was greatest; the same thing was observed at Moscow during the prevalence of cholera. It appears that some epidemics are *spread solely* by means of infection; there are specific poisons, generated in the bodies of those who are undergoing the disease, and spread either by contact, or by the emanations from the bodies affected by the specific disease. This is the case with all that class of infectious fevers called *exanthemata*, as *small-pox*, *measles*, *scarlatina*, and *typhus*. There are other epidemics which seem to depend on some peculiar state of the atmosphere, predisposing the bodies of those whose constitutions are weak to suffer under their influence, of which the present epidemic affords a good example. This brings us to the more practical part of the question: viz. the causes which predispose persons to be affected with any prevailing epidemic: and in this inquiry very little difficulty presents itself, there are so many facts which attest that it is the poor and indigent part of the population who furnish the earliest (?) and by far the greatest amount of victims."

In corroboration of his views, the author refers to the reports in his appendix, from which it appears that the disease prevailed most extensively in over-crowded houses, where families of six, eight, or ten individuals were huddled together in small apartments, without beds, or with perhaps only a quantity of straw or filthy rags, emitting a smell unsupportable to those unaccustomed to it. Individuals residing in such places, and indulging in the most vicious habits, unquestionably are more liable to every kind of diseased action than those occupying well ventilated apartments, and practising the virtue of temperance, but we think that throughout the pamphlet the author puts too much stress upon the "immense amount of destitution and misery" as the *cause* of the late epidemic. Circumstances equally favourable in every respect for the propagation of fever have frequently existed without giving rise to any epidemic such as that of 1843. It is necessary to distinguish between what *originates* and what favours *the spread* of an epidemic disease.

There is no single passage we can select which gives the author's views of fever in general; but from a careful perusal of all his writings, it is evident that he considers the *poison* of fever to be generated by some as yet unknown agency, but *not* by filth, imperfect drainage, or bad fare. When the poison is generated, it is propagated much more rapidly in crowded, ill-ventilated apartments than any where else; and hence the imperative necessity of separating at an early period the sick from the healthy. The extent and progress of the epidemic in Glasgow will be seen by a perusal of the following paragraph and table. We have been privately informed, (with what truth we know not,) that the table is not quite accurate, but if such be the case, an opportunity of correction will be given. It is at first sight strange, that in district No. 10, there should have been no cases of this fever in May, and only 90 in June, although immediately afterwards it became one of the most severely visited.

"The number of cases of the present epidemic reported to the directors of the Town's Hospital, as attended by the district surgeons during the last eight months, commencing May 1843, amounted in round numbers to 14,000, as seen by the table. Of those occurring in Calton, Bridgeton, and Anderston districts I have got no accurate return, but it is certainly within the mark to estimate it at 7,000; those in the Gorbals and Tradeston districts at 2,000; those treated in the Infirmary during the same period at 3,000; those who were attended by private practitioners, not in the poor roll, at 5,500; and those treated in the

Barony parish, in the suburbs, without the parliamentary boundary, at 500; making a total of 32,000, cases of epidemic fever in Glasgow and suburbs, during the last eight months, from the beginning of May till 30th December, exhibiting a fearful amount of poverty and disease; as it affected the poorest and most destitute of the population. Great as it is, however, I have been assured by various practitioners who have attended the poor, that the estimate is far too low.

" The following TABLE exhibits a monthly return, for eight months, of the New Cases of Fever, as they occurred in the different Districts throughout the City, among the pauper population; the progress of the Epidemic from one District to another; also the number sent from each District during the same period to the Infirmary, showing how inefficient were the means employed for checking its progress by isolation."

	Monthly number of Cases in each District.								Number sent to Infirmary monthly from each District.								
District.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Population.
1	50	152	266	289	326	236	124	173	3	7	4	21	5	6	0	1	11,910
2	13	54	193	304	168	124	96	86	5	2	4	56	8	1	0	3	7,619
3	35	71	323	317	206	125	60	92	11	2	3	3	6	0	7	4	5,166
4	132	222	139	243	142	85	66	73	16	2	2	1	0	0	0	0	5,466
5	15	32	53	81	71	33	41	38	14	17	8	12	14	2	3	0	.. ...
6	15	30	30	56	28	48	32	35	6	10	5	11	1	0	2	1	......
7	13	17	69	130	167	113	108	111	7	1	0	3	0	0	0	1	......
8	0	19	73	141	109	87	66	49	0	1	2	1	2	0	0	1	..... .
9	86	123	211	368	321	196	110	79	23	22	16	8	1	0	3	1	......
10	0	90	253	572	445	198	72	111	0	0	4	2	0	2	0	2	......
11	63	170	218	380	296	106	91	80	13	3	7	5	0	1	2	1	5,263
12	29	43	123	228	178	97	59	74	5	6	5	14	2	6	4	2	4,557
13	25	56	71	157	121	89	71	52	9	1	5	13	1	2	2	0	......
14	5	25	81	125	100	100	91	69	0	15	17	21	3	5	4	2	......
15	9	16	48	114	108	161	90	113	3	0	7	14	10	2	4	3	......
16	12	15	20	79	114	75	39	28	10	1	1	2	0	0	0	1	......
17	8	8	13	55	90	57	59	107	4	0	0	4	1	5	2	8	......
Totals.	510	1143	1284	3649	2990	1930	1275	1730	130	90	90	185	54	32	33	27	118,000
Number of coffins given out by the Poors' House monthly at the expense of the Town's Hospital.	121	148	162	217	256	193	146	105									

The following passage proves the ratio of mortality. We, however, place no dependence on the number of coffins given out by the town's hospital. It may be true that all on the poor's roll do not apply for coffins, but we have it on the authority of unexceptionable parties, (district surgeons and others) that it is equally true that the grave is frequently deprived of her just rights: that coffins are frequently obtained for the purpose of being converted into matches and faggots for the benefit of the west end. We are, therefore, of opinion that the *coffin statistics* prove nothing.

"The returns from the Glasgow Royal Infirmary show a mortality from the fever of 5 per cent. The city district surgeons estimate theirs at 3 per cent.,[1] but from the table of the number of coffins given out by the town's hospital to the poor during the epidemic period, it is probable that there is some fallacy, as it is known that all the poor on their roll do not apply for coffins, and that during the epidemic period there was a remarkable immunity from all other diseases. If we subtract 500 from 1346, it leaves 846, being more than the whole number of coffins given out during the whole of the previous year, giving a proportion of mortality to the epidemic in the city of about 6 per cent. during the eight months of its prevalence; but taking the whole at 5 per cent. the mortality will amount to 1500 as the result of the present epidemic during a period of eight months."

We cordially acquiesce in the sentiments expressed in the following paragraph:—

"Credit has been taken for the saving supposed to have been effected to the community, by treating the poor in their own houses, in place of sending them to the Infirmary, where their keep and treatment would have cost the community about 15s. or 20s. each, whereas it has been assumed that it only cost the public a few hundred pounds. Against this doctrine I beg to enter my most solemn protest, and if those who hold this opinion believe the disease to have been contagious, I ask, if the public had possessed the means of isolating the first cases as they appeared, by sending them to an hospital, would the epidemic not have been checked! and in place of having 32,000 cases, with all their accompanying sufferings, it might have been limited to less than 5,000?"

Dr Perry is not the only writer who has expressed his disapprobation of the *stinted* charity of the Glasgow officials. Mr Deuchar, a person unconnected with our profession, in his observations on the prevalence of the epidemic fever in Edinburgh and Glasgow, thus expresses himself:—

"The small amount of relief afforded in money in Glasgow, (viz. L.283) appears to be little more than a mockery of charity. There is surely a wide discrepancy betwixt the amount of *necessity* alleged to have existed, and the amount of *relief* alleged to have been afforded. Each of the seventeen district surgeons, it appears, was allowed to distribute about twenty-three shillings per week. How 'a vast amelioration' was thus *effected* in the state of so many persons in the condition described, it is rather difficult to conceive.

"These observations cannot be considered out of place, for this is not a question of mere local importance, it is a matter which deeply involves the interests of the whole community.

"In Edinburgh, matters have been conducted in a very different manner, and with better success; for instead of expending a trifling sum in *penny tickets*, the Fever Board has expended about L.10 per week in removing patients to the hospital, and cleaning houses; while the extra contribution of the public in aid of the hospital funds has, during the last few months, amounted to above L.[illegible], in addition to a late contribution for the unemployed, which amounted to L.6400; and the Destitute Sick Society has expended during last year a large amount in supporting the diseased poor and their families." P. 6.

Perhaps the most important part of the pamphlet is that which refers to the measures which the author recommends for the purpose of averting, or mitigating, the calamitous visitations of typhus, or epidemic fevers. His recommendations we give in his own language:—"If I am asked what measures I would recommend, I answer in the first place, let the authorities earnestly urge upon the legislature the necessity of a poor law, by which the whole property of the country shall be taxed, for the support in hospitals, of the poor afflicted with epidemic fever. Let there be a board of health established in every large city and town, at the head of which there is placed a medical inspector, whose duty it will be to receive reports, visit, and inspect the different districts of the city. Whenever epidemic disease is reported, let him give in his report to the board of health, whose duty it shall be to cause the proper officers to remove the infected, and have the houses cleaned and purified, and, with the assistance of the police, keep a strict surveillance over all lodging-houses. We have already part of the machinery constructed under the cholera act, when a board was appointed for the suppression of that pestilence. Such is a short outline of the plan which I think ought to be urged upon the Government by the authorities, and I am satisfied it will not be refused. By such a measure the saving of sufferings to the poor, and of funds to the community, would be incalculable. At the same time, hospital accommodation for epidemic fever ought to be provided and kept in readiness, for any necessity that may occur."

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[1] We are in a position to prove that the rate of mortality has been *understated*, and the number of cases possibly *overstated*, in Edinburgh, Glasgow, and elsewhere. To this topic we intend to revert when noticing "*The Glasgow Bills of Mortality*," by Dr A. Watt.

Let us consider these measures *seriatim.*

1st, Nothing can be more just or equitable than that the whole property of the country should be taxed for the maintenance of the destitute poor labouring under fever. At present the whole burden falls upon the authorities in *large* towns, or on a few philanthropic individuals. It is a well known fact, that parties from the surrounding villages, labouring under epidemic disease, are frequently despatched in carts, and other similar conveyances, and left in the precincts of Glasgow, to find their way to the police-office, and from thence to the Infirmary. Several instances of this kind came before the *public* notice in the course of last winter, and we are informed that the practice is pursued on a somewhat extensive and systematic scale. In fact, every parish seems anxious to avoid the expense of maintaining the unproductive pauper population, and "the effects of man's cupidity are exhibited" more generally than Dr P. would lead us to believe, in the following sentence, if we understand him correctly.

"It is in large cities where the greatest amount of misery is to be found, and the darkest picture of the effects of man's cupidity is exhibited. There the human species, more vicious than their inferiors, are seen preying upon each other, each in his own way, from the monopolist down to the common thief, the former with the sanction of the law, the latter by stealth and violence." Pp. 7, 8.

2d, We quite concur in the opinion of Dr Perry, that a board of health in every large city, with a medical inspector as the chairman, would be of incalculable advantage.

3d, But the third and last recommendation appears to us of the first importance. To check the ravages of an epidemic, the first step to be taken is the separation of the sick from the healthy, and this can only be effected when hospital accommodation is in readiness, and *can be immediately put into active operation.* The system of "securing the door when the steed is stolen" is always to be deprecated, but never more so than when a pestilential disease is extending its ravages, and laying prostrate large numbers of the productive classes. We understand that the managers of the Glasgow Royal Infirmary have for some years possessed ground for a new Fever-House, in a convenient part of the town, and it is to be hoped the liberality of the public will enable them to complete a suitable erection before the appearance of another epidemic. Dr P. deserves the thanks of the public for bringing the subject so forcibly and prominently before the civil authorities of his city.

The appendix to the pamphlet contains seventeen reports by district surgeons, and others connected with medical superintendence of the poor, which are highly creditable to the various gentlemen who furnished them, more especially as none of them were aware that their communications were intended for publication. "In a few cases," says Dr P., "I have failed; whether from apathy in obtaining any statement, I am not prepared to say." We trust apathy was not the cause of failure: we think it is more likely to have been overwhelming occupation. These reports give a very melancholy picture of the habits and condition of a large number of our fellow-beings, and must be read by every one with deep and painful interest. It appears that the individuals with whom the district surgeons had chiefly to deal, belonged to the very lowest grades of society, such as (a few) labourers, hawkers, beggars, thieves, and prostitutes, all occupying ill-ventilated hovels, and manifesting a total disregard for cleanliness. The practice must, therefore, have been anything but pleasing, and cannot have afforded any scope for useful clinical study of the fever. Indeed, it appears that the diagnosis required occasionally to be formed through a door, window, or wall!! At page 25 we are told, "At the corner of Mews Lane and Pettigrew Street, there is a new building of four stories, five of which houses do not exceed five and a half feet square, yet in one of these houses on the ground floor, there was a man, his wife, and four children, all of whom had fever at one time. As they occupied the whole space as a bed, I frequently could not gain admission, and had to supply them with what was necessary through the window: no death occurred in this family." After reading this painful, and, we doubt not, faithful picture, we were very much startled by finding the same gentleman conclude by stating, "I am decidedly of opinion that pauper patients under fever, treated at home, have a better recovery than those we send to the Royal Infirmary." Surely there must be some mistake here. We can barely conceive circumstances more unfavourable for any invalid. In this apartment of five and a half feet square were confined, during the course of an attack of epidemic fever, no fewer than six human beings. We have the testimony of the medical attendant, that access could not always be had to the apartment, and, consequently, no philanthropic hand could administer even a draught of water to their feverish lips, or remove the evacuations from their dismal cell; under such circumstances, we maintain, that it was the imperative duty of the officials to have afforded the family hospital accommodation, and if, cognisant of the real state of matters, they left them to their fate, they incurred a very serious responsibility. True, none of the family died, but neither the directors of the Town's Hospital, nor the medical attendant seem to have contributed much to the fortunate event. We could cite many neglected cases, and families among whom there were no deaths; but we have hitherto been in the habit of attributing this to the mildness of the disease, not to the circumstance of their having been neglected.

We are convinced that Dr Perry undertook the task, which he has so well executed, from motives of pure philanthropy, and we cordially wish that his labours may have the effect of rousing the official and influential men of Scotland, so far, at least, as to induce them to give the subject-matter of the pamphlet their most serious and deliberate attention. The pamphlet is dedicated to the Lord Provost of Glasgow, and we observe by the public papers, that it has been brought under the notice of the Directors of the City Poor's House, and the Town Council. These bodies will not in future have ignorance of the existence of the present state of matters to plead as their excuse, after this serious warning and remonstrance by the President of the Faculty of Physicians and Surgeons of their city.

Mr Deuchar, who, in his official capacity as Secretary to the Edinburgh Fever Board, has had very favourable opportunities of judging, lays before the public, in a lucidly written pamphlet, the results of his observation and experience. We regret we can only give a few extracts, showing the prevalence of fever per month for a series of years, and a few of the suggestions he proposes for the improvement of the public health.

"The following Table will show the number of cases per month during a period of nine years:—

January,	1166	April,	701	July,	631	October,	888
February,	810	May,	749	August,	678	November,	1090
March,	845	June,	712	September,	784	December,	1176

"The same result is observed in other places. Thus, in Glasgow, the numbers in 1838 were,—in

January,	502	August,	218

"From the above table it is obvious, that the number of fever cases has generally attained the maximum amount in those months in which malaria arising from putrescent matter, least abounds, and consequently is least injurious.[1]

"The following suggestions are submitted, with the view of calling attention to the subject:

"*First,* It is manifest that a new poor law is essentially necessary.

"1. A change in the law of residence and settlement is essential, so that each parish may be compelled to support those who in fairness and justice can be regarded as its own poor.

"2. The rate of relief to the sick, disabled poor, widows, and orphans, ought to be much more liberal.

"3. There ought to be a board of managers for every city, elected in the same manner as the board of police, and in each district there should be a local board with a surgeon attached, the representative at the general board being chairman at the local board. The general board would thus possess all the united experience of the local boards.

"The local boards ought also to have the power of inspecting all houses under a certain amount of rent, and of ordering the *proprietors,* (not the occupants), to repair and clean them periodically, or when certified to be necessary, or otherwise to prohibit them from being let. Internal cleanliness in the dwellings of the poor would thus in a great measure be secured.

"4. A plentiful supply of water ought to be provided for the poor gratis, and baths erected at the public expense.

"*Secondly,* The Police act ought to be enlarged so as to enforce external cleanliness and drainage where necessary.

"*Thirdly,* Fever hospitals should be erected in various districts, and fever boards instituted in every city where none exist.

"The observations contained in the preceding pages, showing the benefits which must have arisen from the removing patients to the hospital, were intended to bear upon this point. And with the fearful example of Glasgow before us, where so many patients are treated '*at their own homes,*' it is impossible to deny that the removal of patients to an hospital under proper regulations, is the only certain means of checking the increase of fever, which is so evidently promoted by the crowded state of the dwellings of the poor.

"*Fourthly,* In connection with the hospitals, district surgeons should be appointed,[2] whose official duty it should be to visit the sick poor, and take measures for the instant removal of fever patients, and to direct their houses to be cleaned and fumigated when necessary. The expense of maintaining the hospitals would fall to be paid out of the assessment.

"*Lastly,* As it has been shown, that the working classes and their families are the principal sufferers from fever, it is their duty to exert themselves, and to adopt measures calculated to improve their condition."[3]

In concluding our analysis of the works the titles of which prefaced this article, we would most earnestly implore the profession to use their influence with the public to secure for the poor *food, ventilation,* and *medical care. Let there be an efficient sanatory board established in every large town, and suitable medical supervision in the rural districts; and let it be remembered that no system will be likely to do good unless the labours required from practitioners be sufficiently remunerated.*

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[1] In Glasgow, there are "District Surgeons;" but not in Edinburgh. [2] Page 11.
[3] Pages 18, 19, and 20.

Recherches et Observations sur les causes des Maladies Scrofuleuses. Par J. G. A. Lugol, &c.
(*Observations and Researches on the causes of Scrofulous Diseases.* By J. G. A. Lugol, *Physician to the Hôpital saint Louis, &c.* Paris, 1844, pp. 372.)

When we direct attention for a moment, to the great proportion of our race, assailed by the ravages of Scrofula in its various forms and modifications, (amounting it is said to not less than one third,) and consider how often it forces itself upon the anxious notice of the physician and the surgeon, mocking the most assiduous efforts of their ingenuity and skill, it is impossible to regard with indifference the many attempts which are now being made for its further elucidation. Among these the elaborate work of M. Lugol holds a distinguished place. And when we remember, that this able physician has for 25 years directed particular attention to this subject in the Hôpital Saint Louis, and very extensively in private practice, and is already known to the profession by his Treatise on the Use of Iodine in these complaints, no one can turn to this additional work, embodying an account of his experience in a particular and most important department of his labours, without the liveliest expectancy and interest. It was with feelings of this character we opened the volume, and we have not been disappointed. We proceed then with pleasure, to lay before our readers, such an analysis of its contents as our space admits, trusting it may prove interesting in itself; and direct to the original, the especial attention of all whose opportunities allow the further prosecution of the subject.

As the title implies, the present work is entirely confined to the causes of the disease. But before entering upon his proper subject, M. Lugol endeavours, shortly, in his preface to convey a general idea of scrofula, a task which has ever been found to be no easy one. Manifesting its terrible effects even in intra-uterine life, it produces abortions in consequence of which *more than a fourth of the subjects affected by it perish before they see the light;* after birth it arrests their development moral and physical, it complicates all their diseases, all the evolutions of their childhood and youth, rendering these difficult and full of danger. Its presence is revealed by a number of morbid states, whose common origin has been hitherto overlooked, and which, in consequence, have been described by authors as so many different complaints. Affecting the mucous membranes, it manifests itself in the shape of particular varieties of ophthalmia, coryza, leucorrhœa, &c.; in the dermal tissue, in the form of abscesses, ulcers, or cutaneous affections, such as eczema, acne, &c.; or attacking the osseous system it produces caries, rickets, necrosis, &c. In a word, the disease may assail every tissue, and every organ, and its development in one of these should always make us dread its invasion of some other parts of the system. The same observations may be applied to families. Appearing in one child its development is to be feared in the others; and the remark may be extended to the different branches of a family. In whatever form, however, scrofula may show itself, whatever be the number of its symptomatic expressions, whatever apparent differences these may offer, they have, nevertheless, a common physiognomy whose aspect reveals the presence of the scrofulous taint. What this taint or vice essentially is, M. L. does not attempt to define. "We can only affirm," he says, "its existence whatever that may be, and that it is congenital and *always reveals itself by the development of tubercles;* this production is, in fact, scrofula itself, its anatomical and pathognomonic sign—that which characterises it and gives value to all the other symptoms." In other words, let a patient be affected with ophthalmia, leucorrhœa, ulcers, abscess, caries, white swelling,—these are all regarded by M. L. as of a scrofulous origin, provided there is a concurrence of tubercle either in the patient himself, or his immediate relatives. In his eyes "tubercle has the same origin and follows the same mode of formation as other organs; it is itself a species of organ endowed with its own peculiar life like the spleen and liver; like them it has its spontaneous evoluon; it is a pathological production which modifies deeply all the organic ele- ents, and consequently their functions, and impresses on those subjects affect- l by it a peculiar temperament (complexion) viz., the tuberculous tempera- ent, an original one, whence tubercles subsequently arise, and which again ay invade every tissue and produce a number of maladies which are impro- erly called scrofulous." *Preface*, p. 6.

This statement may be considered by our readers as somewhat obscure and comprehensible, and this we are not disposed to deny. The author's meaning e take to be this,—that scrofula has a constitutional origin,—which mani- sts itself by a peculiar physiognomy,—but which for a time may be kept in beyance. Under favouring circumstances, however, and in the long run, it ill manifest itself in the formation of tubercles; and these tubercles become a ew taint or poison, which again, even more powerfully than the foregoing, in- ades the other tissues, and destroys the unhappy sufferer. Tubercle, in a word, the chief exponent of scrofula.

Many morbid states, he well remarks, have hitherto been erroneously separ- ted, which all derive their importance, and should be referred to this one dis- ase, and it is owing to this separation, and to our not studying the disease in ts unity, and as a generic one, that our acquaintance with it is so unsatis- actory, and its elucidation so long retarded. Thus, a mother having four crofulous children, brings them to the hospital for admission,—"the first is ffected with white swelling, and given over to the surgeon; the second is phthi- ical, and sent to the physician; the third has ophthalmia, and is sent to the oc- ulist, whilst the fourth, having subcutaneous tubercles alone, is recognised as scrofulous, and sent to the Hôpital Saint Louis. Who, however, will affirm, that these four children do not carry within them the germ of a common vitia- tion,—a scrofulous vitiation, and yet they will each be submitted to very different modes of treatment." *Preface*, p. 7.

THE CAUSES—are all referred by Lugol to three separate heads, viz., the *hereditary*, the *pathological*, and the *external*.

Hereditary transmission from parent to child he found, in far the greater number of his observations, to be the source from which he could most readily trace its origin. In those families possessing the scrofulous diathesis, the children are endued with a peculiar appearance and temperament, *the scrofulous temperament*, common to all, and which reveals the fatal tendency to disease with which they are tainted. This peculiarity of temperament exhibits itself in a combination of external marks, or physical signs, which may be either so prominent that they cannot be mistaken, or so slight that they may be overlooked, in consequence of the individuals possessing otherwise the elements of a sound organization, and which, for a time, may conceal the morbid disposition they have inherited from their birth. It has been generally stated that light hair and a fair skin more usually accompany this diathesis, than those of a dark colour. Lugol, however, states that he has seen few with light hair; in more than the half it was black; and in the others it was generally of an auburn colour, and more frequently a dark auburn than a light: the same observations apply to the eyes and skin. We believe his remarks are quite applicable to France, whilst, in this country, scrofula still more frequently manifests itself in those of a fair complexion; in both, however, we imagine it no very difficult matter for the experienced eye to detect the scrofulous diathesis, although it would be exceedingly difficult to define minutely and clearly the peculiarity in words.

But in addition to the physical signs, there are, according to Lugol, two principal characters by which the hereditary nature of the disease may be recognised; and these are, 1*st*, The prevalence or universality of the disease in a family; and, 2*d*, The great mortality occasioned by it in that family, a mortality so great, that it can only be referred, he conceives, to the disease having its source in a common origin, viz., that of the depraved health of the parent. Scrofula he believes to be the most active agent in the destruction of the human race; it not only has victims more numerous, but also at an earlier period of life, than any other disease. Parents who transmit this disease to their progeny, may either have inherited it themselves, or have contracted a state of disease which shows itself in their progeny in the shape of scrofula.

As regards the former, the disease may be transmitted, or arise from parents either actually scrofulous at the time being, or who have at some period of their life been so, even though at the time they are in the enjoyment of good health. It may also be transmitted from those believed to be exempt from the disease, but whose immediate relatives are afflicted with it.

Tubercle being the predominant character of scrofula, it may be transmitted from those labouring under phthisis; the connection indeed between the two complaints is marked and intimate, and in proof of this, M. Lugal states, that in his wards, containing upwards of 80 beds, he has been able to demonstrate that phthisis had manifested itself in fully a half of the parents of those under his care for scrofula, and that the natural termination of this disease is death by phthisis.

The transmission of the disease he believes to be inevitable when it has its source in the father; but this law he has found liable to some rare exceptions, as in the case where a healthy man procreates from a scrofulous female. It was also, we may remark, an opinion of Cullen, that scrofula was oftener transmitted from the father than the mother.

When, however, M. L. states that scrofula arises from hereditary transmission, he does not mean to affirm that it arises exclusively and directly from scrofulous parents; if it had no other origin, and this an independent one, it would not long afflict the human species, for it would become extinct with the death of those who were thus afflicted. "It is perpetuated and propagated not because it has a single origin. It arises from several sources or states of disease, all however, tending to enfeeble the procreative power of man, and render his progeny scrofulous." Accordingly, "it will be found," he says, "that man originally healthy acquires certain morbid states of health which he transmits to his children under one of the forms of scrofula; and thus he becomes the origin the parent of a scrofulous race, and this in consequence of his own imprudence," p. 116. The infirm conditions here alluded to, are all of such a kind, that the powers of reproduction are weakened, and they may be developed by other infirmities, such as the progress of years or other physiological causes. Syphilis, for example, he conceived to be one of the most common causes of hereditary scrofula; but, as may readily be supposed, it is very difficult in this instance to trace the hereditary transmission. A man may know that his parents have been afflicted with gout, tubercles, &c., but he seldom knows if they have had any syphilitic complaint.

The resemblance between syphilitic and scrofulous complaints is sometimes so great, that a natural relation between them has often been supposed, and some, as Stoll, Rosenstein, Portal, and Alibert, have gone so far as to regard scrofula as a mere transformation or degeneration of the syphilitic virus. "But, however great the resemblance between many of the symptoms in these two diseases, they are nevertheless perfectly distinct. Syphilis is contagious, scrofula is not. Scrofula may arise from syphilis, but the latter never originates from scrofula; a man in the most robust health may become syphilitic in a few minutes, and be cured in a few weeks, whereas scrofula is generally the sign of an organic predisposition, which we can only cure by a long and continued course of treatment," p. 122. In fine, primary syphilis only begets syphilis, whilst the syphilitic cachexia which is no longer contagious by venereal intercourse, may be transmitted under the form of scrofula or other pathological states. Whatever in fact tends to weaken the reproductive faculty in man may thus become a cause of this disease, and under this class of causes may be included the abuse of venereal pleasures, too early marriages on either side, and a disproportionate age between the parents.

It is sometimes stated as a curious circumstance connected with the history of these hereditary diseases, that they frequently pass over a generation, affecting, it may be, the grandfather and grandchild whilst the intermediate parties are exempt from them. This account of matters, however, Lugol conceives has arisen from ill-observed facts, and that there is in reality no such exemption in e intermediate race. "The opinion," he says, "that scrofulous diseases pass er a generation is perfectly gratuitous; a father born of scrofulous parents d who has children affected with this disease, is himself scrofulous,—and the oof is his progeny; otherwise we are affirming that a man may give that ich he has not,—that there may be an effect without a cause," p. 160.

The whole chapter, extending to 74 pages, on the hereditary nature of the ease, is exceedingly interesting and well worthy of perusal. This is true, t only because he gives ample details of the many cases which have fallen un- r his notice, and these in one generation only, but also because he traces the anifestations of the disease, whether latent or conspicuous, through all the teral and affiliated branches of the families in which it has occurred.

Believing hereditary transmission to be the general cause of scrofulous dis- ses, the only one he has been able to recognise and verify, he has, he says, voted a larger space to its consideration than may be thought necessary; but is only by analyising the hereditary taint under every aspect, that another bject, of no less importance, *the intermarriage of scrofulous subjects*, can be preciated. Society should interfere to prevent such marriages. The law, he ates, interferes so far as to declare the marriage tie indissoluble, and this with view to the interests of the children; and, he argues, should not its care be ually extended to procure for them the first of all blessings, a sound state of ealth. How many marriages, he adds, do we not witness every day, which rry within them the germs of all the infirmities scrofula is capable of produc- ng,—what can be expected from them but a source of misery to the parents in itnessing the sufferings and death of their children, one after another, by a ereditary disease. Can there be any prospect more dreadful? The subject is o doubt surrounded with difficulties, but that is no cause why society should e left a prey to the many evils arising from the propagation of hereditary dis- ases. The task of preparing laws on this subject, he thinks, should be com- mitted to men of science. The subject is indeed a difficult one; and we cannot ut fear that science would have little prospect of success in contending with it, nvolving, as it does, so much of the short-sightedness and selfishness of man. Such matters can only be combated by an appeal to principle and correct moral feeling. Physicians have frequently, unanimously, and urgently, protested against matrimonial alliances among the unhealthy, and the intermarriages of those nearly allied by blood, but with how little practical effect? The simple peasant well knows that his seed-corn degenerates in a few successive crops,—the man of science and the agriculturist are familiar with the fact that farm stock must be crossed, and that *breeding in* must be avoided; and yet how constantly are we seeing individuals, in other respects prudent and intelligent, proceeding, in respect to themselves and their own race, necessarily creating misery and woe, as if such laws had never been recognised, and such marked and melancholy results had never been experienced.

The chapter on pathological causes, as well as the one which succeeds, may be considered rather as subdivisions of his subject than independent ones. All the causes to be reviewed in these two latter, he considers as merely occasional, and they are brought under notice more with a view to facilitate the study of the disease, than because they are efficient causes of it. "They no doubt," he says, "favour the invasion and development of these diseases, but rigorously speaking, there is but one truly generating cause, and that is transmission by hereditary descent," p. 294.

Pathological causes.—The development of scrofula after the exanthemata, has often been noticed; and in such circumstances its origin has been attributed to the effect of these diseases. In reviewing their influence on this disease, M. L. remarks that whatever relation they may have with it, these can only be regarded as excitants or complications, but never as inherent causes. Many other morbid states, such as catarrhal fever, worms, painful dentition, &c., erroneously considered as pathological causes of the disease, are rather to be regarded as its first symptoms, or as a peculiar mode of invasion. This manner of viewing the subject, he says, has been entirely overlooked by his cotemporaries, both in their theory and practice; the medical treatment of children being far too antiphlogistic and debilitating, having no regard either to their temperament or predisposition. The abuse of blood-letting in children he considers as one of the most common causes of the irremediable impetus often given to scrofulous diseases. Its abuse is the cause of scrofula in this sense, that it creates feeble subjects, the future parents of a feeble or scrofulous race.

He next considers *pregnancy and parturition* in their relations with scrofula; these in a healthy woman are generally simple and natural functions; but if either parent is scrofulous, they then become complicated. Pregnancy often exercises a marked influence on the progress of scrofulous diseases,—thus it retards phthisis; but on the other hand, the scrofulous taint re-acting on the product of conception, often becomes a cause of abortion. Such abortions may have their origin either in the morbid state of health of the father or mother, or in that of both.

Progeny scrofulous by the father's side, if the mother is strong and healthy, may derive sufficient nourishment to enable it to reach the full time. But if the procreative powers of the father are greatly enfeebled, and similar debility exists on the mother's side, the progeny will not be endowed with vitality which shall enable it to pass through all the phases of the fœtal life, just as grains deteriorated in quality cannot germinate in the richest soil. When the mother alone is scrofulous, abortion may take place; if her health, however, is much deteriorated, it is very apt to occur. The child scarcely assumes vitality ere struma developes itself, and grows with its growth. The circumstances in which it is placed favour the development of the complaint, and abortion is the consequence. *Cæteris paribus*, however, this event has its origin more frequently in the infirmities of the father, than in those of the mother. Again, abortion is almost a necessary consequence when both parents are in feeble and indifferent health. Conception, then, proves but a cruel deception. The fruit of such alliances often fails to struggle into life, and if it issues into the light, its lot proves nothing better than an ephemeral existence oppressed with infirmities.

Many of the causes to which abortions have been attributed,—a false step, fatigue from walking, carrying too heavy a burden, grief, fright, anger,—have little or no effect in producing this result in a well constituted woman; indeed, if these circumstances were causes of abortion, few would reach the full time, all being more or less alike subject to them. When, however, abortion has its source in the morbid state of health of the parties themselves, it generally arises without any apparent external cause. "Spontaneous abortions," says M. L., "are numerous, but in order to recognise them, we must make ourselves acquainted with all the antecedents and coincidences, two sources of diagnosis too much neglected in our day; of this any one may be convinced by a perusal of the article Abortion by the late Desormaux, in the *Dictionnaire de Médecine*. The article contains many good things, and, among others, his observations on medicines reputed abortive. He remarks, with justice, that these often fail in their effects, and do not produce the evil intended, even though they be powerful enough to cause the death of the woman. But he makes no mention of the species of abortion which now occupies our attention, yet of all it is the most common in our day. I should say that it alone is of more frequent occurrence than all the others put together. Had the attention of Desormaux been less directed to local causes, he would have better understood the bearing of all such criminal attempts to procure abortion by means of emmenagogue remedies. He would have seen in these facts the insufficiency of the local causes of abortion which he has mentioned, and he could not have failed further to see, that in those families where abortions are frequent, the cause is to be sought in the diseased health of the father or mother." "Spontaneous abortions are a most interesting subject of study. An abortion from a local cause is an isolated fact, without value for the future. If a woman has an abortion in consequence of having taken too long a ride on horseback, carried too heavy a burden, &c., it is sufficient for her to avoid these causes in future, to enable her to reach her full term; but it is very different in the case of spontaneous abortion. Here the effect is in actual operation. This abortion will be followed y many others, unless we comprehend the cause which has produced the first, nd under the inspiration of sound doctrines apply the proper remedies." Pp. 59, 260.

Should a woman, however, escape abortion, and go her proper period, her labour will be slow and painful, and this owing to her own state, and that of her hild, both concurring to render the delivery difficult. One cause is a laxity nd debility of fibre; but there is another equally frequent, and often coincident with this, viz. a hypertrophical state of the spongy bones of the pelvis. In ne case of this kind, where labour had continued for three days, the mechanical hindrance was overlooked, but was discovered by M. L. three months fterwards.

External causes.—The concluding chapter of the work is occupied with a ritical examination of the external and occasional causes which are sometimes onsidered as productive of struma.

Under this head he reviews the effect of climate and seasons, of vaccination, f infirmities of the generative and uterine systems, its alleged spread by contagion, by the inoculation of scrofulous matter, by cold, moisture, &c. &c. All hese he considers as capable of rousing the latent germs of the disease into ctivity, and of aggravating them when so caused, but as altogether incapable of hemselves originating or producing them. We had almost forgotten that, at ne time, the Medical Faculty of Paris deliberately found and decided, that scrofula was contagious in its nature; and that the French Parliament and other governments prescribed laws for guarding against its spread and ravages. On this point the author remarks, "Although we have now for twenty-five years watched scrofula in all its forms in a vast number of patients, we have not been able to discover a single case which owes its origin to contagion." P. 331. From a careful examination of so many particular cases and general facts, M. L. thinks himself entitled to draw the conclusion, that the exciting or occasional causes enumerated by authors, have no inherent effect on the production of the disease, and that when scrofula manifests itself under their influence, it is to be ascribed to the constitutional predisposition of the individuals; that when these occasional causes operate continuously, they always prove most injurious to man, and that wherever they exist in a community, there the rising generation will be emaciated and feeble.

The study of the occasional causes as bearing upon the communities which are under the charge of the public authorities, has already, and especially within the last few years, had great influence on the well-being of these communities. The rights of humanity are now respected in jails and prisons far more than they were wont to be, and epidemics in them are far less frequent than formerly. The privations and hardships of our mariners are now greatly mitigated, their food is more nourishing, their repose better secured, and their accommodation and comforts greatly increased; and hence, within the last half century, many naval expeditions have been undertaken, and scarcely a vessel has exhibited a single example of those distressing epidemics, fever, scurvy, dysentery, &c. &c. The same remarks are applicable to the military service, where the barracks, food, ventilation, and many such matters have undergone great improvements, with corresponding results in the superior healthiness of the troops.

Nor are these efforts at improvement confined to the public services. In our municipalities, and in private life, these subjects are beginning to vindicate for themselves the attention they alike require and deserve. Common sewers have been cut, narrow lanes and streets pulled down, insalubrious manufactories removed; much, moreover, has been done in regulating and deepening the courses of rivers, and in supplying public baths.

The food of the lower orders, though not all that might be desired, has unquestionably greatly improved within the last half century, and there has been a comparative melioration in the comfort and morals of the great mass of our people. Scurvy is one of those complaints which, from such causes as these, is now rarely or ever seen. The diminution of the number of diseases in those towns and districts where the rules of health are carefully attended to, demonstrates the evil agency of those occasional causes of the disease now under consideration; and shows how carefully every community should endeavour to remove and prevent them. Scrofula would assuredly be less common among the poorer classes if their food were more substantial, and among our factory population, if they were not overworked. But these remarks, however true, and based on the incontrovertible principles of science, cannot conceal the appalling fact, that scrofula often produces a frightful mortality in families where all these external and occasional causes are wanting, and where the children receive all the attention which wealth, care, and luxury can bestow. Every medical man knows that there are opulent families, in which children cannot be reared. Their number may be above the ordinary average; but they are speedily worn down by hydrocephalus, mesenteric, and other tuberculous affections, by worms, convulsions, and other complaints of scrofulous origin, which destroy the offspring of families in the most affluent circumstances. Instances of this sort, though far from few, are not sufficiently considered. In them are exhibited all the potency of original predisposition; and to an extent which mocks and resists all rules as to regimen and treatment, however judiciously and faithfully applied.

We strongly recommend our readers to study the work of M. Lugol: and we are happy to be able to announce that Dr Cowan, the talented translator of Louis on Phthisis, is preparing an English version of it.

PART THIRD.

PERISCOPE.

PRACTICE OF PHYSIC AND PATHOLOGY.

Case of Singular Formation of Cataract. By Fron-Mueller.

A merchant, aged 65, who had previously enjoyed good health, while sitting one day opposite a window was struck in the face by a sun-beam, and suddenly experienced severe pain in the right eye. The pain soon diminished; but vision, which was previously perfect, was quite lost on that side. He was seen three days after by Fron-Müller, who discovered a lenticular cataract of the right eye. On examining the window through which the light passed, Fron-Müller discovered, in one of the panes of glass, two convex bulbs, similar in size and form to lenses, a circumstance which probably explains the occurrence.—*Gaz. Medica di Milano, April* 1844.

Case of Spontaneous Hæmorrhage from the Bulb of the Eye.

By Fron-Meller.

F. M. was sent for to visit an operative who had been for some time labouring under the commencement of a staphyloma of the right eye, in consequence of a ronic ophthalmia of an arthritic nature. He found the patient seated ith a basin before him, into which were falling drops of blood from the ght eye. This hæmorrhage had supervened after violent pain of the eye, d had continued an hour. On examining the eye, there was discover- a red tumour, of the size of a pea, with a short peduncle, which protruded om the centre of the cornea, whence the blood proceeded. The tumour was cised near its base, by means of a pair of scissors. The hæmorrhage ceased ter the operation. The tumour consisted of a membranous sac, apparently rmed chiefly by the iris : it contained minute clots of blood. After the ex- sion of the tumour, the bulb diminished in size; there remained four rugous arks corresponding to the recti muscles. The cornea lost its transparency.—*az. Medica di Milano*, April 1844.

AMAUROSIS CURED BY INOCULATION WITH THE SULPHATE OF STRYCHNIA.

BY DR VERLEGH.

The subject was a lady, 27 years of age, of nervous temperament, affected ith incomplete amaurosis of the left eye, and commencement of the same isease in the right one. The disease was of three months standing, and of heumatic origin; after two months' fruitless efforts, Dr Verlegh tried inocula- ion with the sulphate of strychnia in the neighbourhood of the orbit. A grain f the salt was dissolved in two drops of water; the first day 12 inoculations ere performed, six above the eye in the course of the supra-orbital nerve, six nder, and on the side of the nose where the ethmoidal filaments and nasal ranch terminate, and whence arise the filaments which go to the iris. There as no effect that day; but next day some slight tremors occurred in the neigh- ourhood of the inoculated spots. After two days' rest the inoculations were epeated, and the number of punctures increased to 18. The patient now became ensible of a slight haziness. After five successive inoculations carried to the ength of 30 punctures, she commenced to distinguish objects; after the eighth, ision was completely restored; the contraction of the pupil gradually increas- d, and the other symptoms diminished after five grains of the sulphate had been used; during the same time inoculations were had recourse to in the neighbourhood of the right eye; after the lapse of two months the patient continued perfectly restored; and this the author conceived sufficiently long, to warrant him, in considering the cure as permanent.—*Gazetta Medica di Milano*, April 1844.

SPONTANEOUS CURE OF CATARACT. BY DR GIEHRL.

A stone-breaker, who had suffered from cataract of the right eye from his youth, had the misfortune, whilst pursuing his occupation, to have his left eye struck by a splinter, which produced a violent concussion of the eye, and gave rise to inflammation and loss of vision. The man applied to Dr G., who, on examining the eye, found, along with considerable inflammation, a completely formed cataract. He combated the former symptom by antiphlogistic remedies, and advised the patient, as soon as all irritation in the left eye should have disappeared, to have the cataract removed from the right one, in which the power of vision had been lost at an early period. On this the patient applied elsewhere for advice, and consulted Dr S. in A.

In order to examine the eye more minutely, the latter dropped into it a solution of the extract of belladonna; in consequence of this the pupil dilated largely; at the same time, the opaque lens fell into the anterior chamber; and, vision was immediately restored. The lens became absorbed by degrees, and the patient was cured.—*Allgemeine Zeitung für Chirurgie, innere Heilkunde und ihre Hülfswissenschaften*, April 1843.

MATERIA MEDICA.

Clinical Experiments on the Ergot of Rye. By M. Pardu, Physician to the Hospital of Cuneo.

I. Experiments on Animals.—The ergot, under the various forms of powder, resinous extract, or baked into bread, was given, in doses gradually augmented till they became poisonous and fatal, to a mule, and various kinds of birds. From 20 to 60 grammes a-day were given to the mule; as early as the second day he became sickly, the pulse fell in frequency, the action of the heart became more and more feeble, spasmodic, and irregular; the respiration slow and laboured; he lost his appetite, and became emaciated; his legs shook under him in walking, and at last he lay constantly on his side, and became dull and apathetic. The same series of phenomena were observed in the birds. We have not room for the details of these experiments, which are given at great length by the author. The appearances which presented themselves on dissection were the following. The nasal cavities were injected and red, and covered with a brownish mucus; in the birds, the comb was black, indurated, horny at the circumference, and livid towards its base; the cellular tissue internally was also of a livid colour, and infiltrated with a semi-sanious fluid. The skin over the whole body was shrivelled, deprived of its cellular tissue, and consequently separated from the subjacent parts; towards the sternum, it rested on a layer of semi-coagulated lymph, of a whitish colour, and a few lines in thickness; towards the middle region of the neck, it was of a livid colour; at the lower part of the sternum of a gangrenous red, and over the abdomen of a livid black. All the muscles were soft, pale, semi-gelatinous, and almost entirely deprived of fibrine, (the pectoral especially,) and imbued with lymph similar to that already mentioned. The membranes of the brain, in the neighbourhood of the corpora-quadrigemina and cerebellum, were gorged with blood. The cerebral pulp itself was softened, and in some of the pullets there was serous infiltration into the ophthalmic bodies. The spinal cord, more especially towards its lower protuberance, was also softened; and at that place the membranes were enveloped in a clear lymph highly coagulated. The lungs were compressed, engorged, and scarcely crepitated. The gullet was always injected; the internal membrane of the stomach slightly so in the greater number. Lesions of the intestines were rare, and by no means constant. The kidneys were always found softened, the heart flaccid, and the auricles filled with uncoagulated blood, which escaped in the same state from the vessels divided during dissection. Where the poisoning was gradual, and the animals had suffered any time from ergotism, the blood had a peculiar character; it was sanious, of a violet red colour, fluid, and uncoagulable. The liver was very soft, pultaceous, and black; the gall-bladder filled with black bile, in appearance like the ergot, or of a greenish hue. The bones both in their compact and medullary portions were engorged with blood, and this engorgement was very marked towards the articular extremities; the articular capsules themselves were relaxed and as if macerated. It thus appears that the continued action of the ergot on animals, produces a sort of general decomposition of all the fibres and tissues of the body. The author took the precaution, previous to commencing his experiments, to satisfy himself in regard to the normal appearance of parts, by opening several of the animals in a healthy state.

II. Experiments on Man.—Case 1. A tall thin lad, 24 years of age, of a lymphatic temperament, and out of work, applied to be received into the hospital on account of some trifling pains. On admission, his pulse was 67 and his respiration 20. Thirty grains of the ergot in powder were administered to him. In the course of two hours, there was a sense of great depression; rigors with cutis anserina, anxiety, and a feeling of weight at the epigastrium. No appetite. The pulse became soft, small, feeble, and fell to 60. Face pale, pupils dilated. Next day the same dose was repeated with similar results; along with great depression of the strength and temperature of the body. Pulse 58, respirations 15. He was now put on full diet; but he continued feeble and enervated, with slow pulse and respiration for upwards of four days.

CASE 2. *Epilepsy.*—A woman, aged 50, of dark complexion, and slender make, had been subject, for many years, to epileptic attacks, which recurred every week: she had first suffered from a severe attack of meningitis, for which he was treated in the hospital, and was now convalescent; but the epileptic atacks had returned as previously, and she had suffered from one the evening previous to the administration of the ergot. On the 7th December 1841, the oil prepared by maceration of the ergot in ether and evaporated by cold, was precribed for her. It was given in the doze of eight drops made up into a potion with ome mucilage and a little syrup,—the whole quantity to be taken by spoonfuls n the course of three hours. Previous to its exhibition, the pulse of the paient was 72, (of tolerable strength); respirations 21; skin hot and dry; some hirst; tongue whitish. After the whole of the medicine had been taken, the pulse was down to 66, less strong; skin soft; no thirst. The same dose was repeated on the two following days with more marked effects; pulse 55 (feeble); espirations 16; skin cool; sensation of weight at the epigastrium, and in the head. It was now thought prudent to discontinue the remedy; the patient emained in the same state for seven days, after which she gradually regained strength; and there was no return of the epileptic fits all the time she emained in hospital, which was till 4th January 1842. She was afterwards visited at her own house, when it was ascertained that there was no recurrence of them.

CASE 3. *Epilepsy.*—A lad of slender make, possessed of little intelligence, and a vacant look, with red and prominent eyes, was in hospital on account of epileptic fits, which were severe, and recurred three or four times a-week; he had been subject to them for the last 18 months. On the 18th December 1841, his pulse being 74, and respirations 21, he had 20 grains of the ergot in powder, given him in a single dose. In the course of three hours afterwards his pulse was 70; espirations 19. Next day, he got the same dose, with more marked effect, both on the pulse and respiration; there was also anxiety; pain at the stomach; nausea; eructations; sense of weight in head; general coldness; and great lassiude. The remedy was continued for other four days, or six days in all, and with the same phenomena; no return of epileptic fits; patient improved. On he last day of its exhibition, however, his skin having become cold, and covered with perspiration, the anxiety having increased, and the pulse become feeble, with great prostration of strength, it was thought prudent to discontinue the remedy for a time. On the 26th December he had a fit, but of less severity than usual. Strychnia was now tried inwardly, and in pretty large doses, but with no good effect; recourse was therefore again had to the ergot, and it was now given under the form of Bonjean's extract, (*see following paper*) in the dose of half a drachm a-day; its action on the pulse and respiration was slight in comparison to that of the powder. The oil was now tried as in the previous case, n the dose of six drops a-day for three days, then eight drops for five days, so hat from 27th January to 3d February, the patient took 58 drops in all. Durng its use a general wasting took place, with remarkably slow pulse, and he had only one slight fit. Some days later, an error in diet caused a severe atack, and the patient now left the hospital. In this case, then, two months passed without an attack. It is not known if the disease subsequently reappeared. The case is certainly incomplete as far as regards the cure, but is interesting as howing the dynamic action of the ergot. It moreover proves the inferiority of action of Bonjean's extract, to either the powder or the ethereal oil, and also exhibits the advantages that may be derived from the ergot in epilepsy.

CASE 4. *Chronic Bronchitis.*—A man aged 50, entered the hospital on the 4th December, on account of severe bronchitis. He was bled seven times, and had tartar emetic potions. On the 22d he was convalescent, but a short dry cough, which was habitual to him, remained. He was now put upon the oil of ergot, and eight drops a-day were given for four days, (from the 24th to the 7th); the pulse, which previously had been 74, had fallen, on the 4th day, to

52; it was also soft and small; the skin, formerly dry, had become soft and moist, and the cough had disappeared. Perfect cure.

Case 5. A young student in pharmacy, of a robust make, and subject to palpitations and headach, in consequence of hypertrophy of the left ventricle of the heart and aortic angeitis, for which he had been in the habit of being bled several times a-year, had administered to him 10 grains of segaline, prepared according to the method of Wiggers; then 12 grains, with a further dose of 3 grains of the resinous extract. On the first day, the pulse fell from 67 to 61, and lost its hardness; the second, it fell still more, and there was marked diminution in the palpitations of the heart, with general lassitude; two hours after taking the extract, the pulse fell to 48. From that period the headach ceased, but the patient became so feeble and prostrate that the medicine was discontinued: for several days, at least, he had no return of his usual complaints.

The author now tried the effect of the medicine on himself. On the 17th December, his health being good, his pulse 74, and respirations 21, he swallowed 20 grains of the ergot in powder. In the course of an hour he experienced nausea, weight of head, painful constriction at the epigastrium, general lassitude, a creeping chill over the extremities, and muscular inertia, so great, that he could scarcely move the fingers, and had great difficulty in either writing or walking: pulse 62, respiration 20. This state continued for three hours with a feeling of chillness over the whole body, an inclination to vomit, and intellectual languor; the pulse fell to 60, and became small and weak. He took his dinner with his usual appetite, and, an unusual circumstance with him, had a desire to drink undiluted wine. The wine which he drunk produced no headach as it used formerly to do. After dinner he found himself perfectly well. Next day he dined out, and, as sometimes happens on these occasions, he rather exceeded his usual sober habits. Three hours after dinner he repeated the experiment of the preceding day; at the time he was somewhat excited, his pulse being 79, and respirations 33; in this state he swallowed 30 grains of the powdered ergot. In the course of an hour his condition was completely changed; he felt ill at ease, stupid, sleepy, and there was general prostration, a feeling of great sadness, throbbing frontal, headache, uneasiness at stomach, difficulty of respiration, as if a weight were lying on the chest, in consequence of which he was obliged to take deep and forced inspirations. The sensation of cold, as well as that of sadness and lassitude which had succeeded to the state of joy and excitation he had been in previously, were inexpressible; he also felt toothach, to which he had been subject on exposure to cold; his limbs felt heavy as if embarrassed with a great weight, and the calves were painful; pulse 72. This state was progressive and insupportable, so much so, that he felt it necessary to combat it by means of a glass of old and generous wine, which gave instant relief. During the night he slept little. On the following morning he had a bitter taste in the mouth, a painful sensation of weight in the calves and ankles, want of appetite, and languor during the whole day.

He now gives in great detail, twelve interesting clinical cases of pneumonia, pneumo-bronchitis, typhus fever, phlebitis, hypertrophy of heart, aortic arteritis, and tubercular bronchitis, all treated with advantage by means of the oil and bleeding. The pulse was also lowered as in the preceding cases, and the patients did well. We subjoin two of these.

Case 6. On the 18th November, a country woman, of a sanguineo-lymphatic temperament, habitually sickly, and liable to attacks of pneumonia, was delivered of a child in ward No. 4. She had just recovered from a severe attack of pneumonia, when she was again seized with the same complaint. On examination, her face was flushed, and she had cough with rusty viscid expectoration, bronchophony on right side, respiration laborious, continued moaning, prostration, and alteration of features: *diagnosis*—pneumo-bronchitis of right side. She was bled from the arm, and six drops of the oil of ergot prescribed. The patient expressed great repugnance to being bled, declaring that she had already had this done sixteen times a few days previously, for her last attack. Next day she was somewhat improved, but the disease still continued, cough, pain, bronchophony *ut supra;* the whole parenchyma of the lung appeared to e involved. The bleeding was repeated, but little blood could be obtained owng to the depressing action of the oil in the heart and arteries,—oil continued. ext day the oil was stopped in order to obtain some blood. A bleeding was ractised to the extent of a pound; blood buffy. The fourth day two other leedings, blood buffy still, disease progresses frightfully, no respiratory murnur to be heard over the whole of right side, a bronchial souffle in right claviular region; breathing almost stertorous; expression anxious. Oil of ergot, wo other bleedings, some improvement, crepitating respiration on right side, ronchial souffle diminished, less cough and distress. The oil was continued or other three days, till 29th November. At that period orthopnœa re-appeard with alteration of features; the patient appeared as if about to sink rapidly; listers to the legs and mustard poultices to the feet. Some improvement. On he 1st December, 14th day of treatment, the oil not having been given for ive days, the cough again became aggravated with pain of side; dull sound on ercussion, crepitating respiration; the oil was again had recourse to. The pothecary, however, furnished it of a different quality; it was resinous, of a eeper colour and more active. The patient had hardly taken half the ordinary ose, when she complained of a feeling of intense cold and swelling of the right oot. As sinapisms had been applied to this foot, little attention was at first aid to the complaint of the patient, but lancinating pains soon came on, and a angrenous ulcer appeared on the external malleolus; the toes and metatarsis ecame affected with dry gangrene, but the disease of the chest was cured. The atient was now transferred to the surgeon, and amputation according to Choart's method was had recourse to with complete success. The author believes hat this patient would have died had the oil not been administered, and the acidental gangrene occasioned by it he thinks might have been prevented.

CASE 7. *Phthisis-Ergotic gangrene.*—The ergot was also tried by M. Pardu, in his terrible disease, and the most unlooked-for results were obtained; he even oes the length of saying that in this disease its most brilliant triumphs are to be ound. His conviction is based on extended experience, and that it may not eem rash or exaggerated, he cites the following case, selected from among many n the hospital, as one of the least favourable. A tailor, aged 52, small in tature, rickety, scrofulous, and affected for the last four years with caries and nchylosis of the right elbow-joint, and white-swelling of the knee of the same ide, was received into hospital on 3d December 1842. In August of the same ear, he had had several attacks of hemoptysis, followed by fetid purulent exectoration and hectic fever. There was general emaciation, paleness, respiraion 33, short and hurried, and dull sound on percussion, with crepitating respirtion in the right sub-clavicular region; pulse 106, irritable and frequent, visid sweats on the chest and arms. The case was regarded as desperate. He as ordered 6 grains of the oil daily, and to be continued for five days; immeiate amelioration followed; the respiration became easier, and the pulse reguar and less frequent. The oil was continued no longer than the time specified, nd a few days after its suspension, there was a return of all the preceding sympoms. The ergot, in powder, was now ordered, to the extent of 16 grains a-day, nd it continued to be given from the 17th December to 8th January. The atient improved daily, and the fever, cough, and expectoration entirely disapeared. It is important to notice, that if the remedy was suspended for two or hree days at a time, all the symptoms threatened to return. On the 12th anuary, the pulse was 74; respirations 14, and the crepitating respiration gone. he principal disease was now the incurable caries, but the suppuration from t had also considerably diminished under the influence of the ergot. At a later eriod, there being a threatened return of the chest symptoms, the hemostatic xtract of Bonjean was at first prescribed as a light remedy, in doses of 2 or 3 rammes; but, as previously, the ergot, in powder, was soon again had recourse o, and the disease held in abeyance. The patient's appetite returned, he was ble to rise, and his improved state astonished all the assistants. On the 24th anuary he got intoxicated, and exceeded in his diet; there was, in consequence, violent return of all the symptoms. The resinous oil of the ergot was prescribd on the evening of the 25th, in a dose of six drops, to be repeated the following day; some improvement; pulse 76; the remedy was now suspended for two days, and again resumed; pulse 63; still improving. On the 3d of February the patient was remarkably well, the expectoration almost gone, no cough, respiration good, and pulse 50; M. P. however, was painfully surprised to find the carious arm affected with gangrene. Although this unhappy accident occurred in this case, it is one, he says, which his numerous experiments have taught him perfectly to avoid, by administering the medicine only with great caution and repeated interruptions, and only using oil or powder which are genuine. On inquiry, he found that the misfortune had originated in this way:—The apothecary, instead of preparing the oil according to the method of Wiggers, had treated the ergot with pure alcohol, and then having evaporated half the liquid and added a certain quantity of ether, he thus procured, at less expense, a larger quantity of the oil; but one of a resinous and highly poisonous quality. The patient died, but no dissection could be obtained, the friends having carried off the body.

From the preceding facts, it follows then, that the ergot has a double action; the one on vitality, evidently contra-stimulant or depressing, similar to that of many other hyposthenic remedies; the other on the organism, which is one peculiar to several families of diseased gramineæ.

III. PHARMACEUTICAL REMARKS. The best ergot is obtained from rye which is grown on dry well-aired and elevated regions, and where the soil is sandy or chalky in character. When its form is somewhat elongated, and is of a very dark obscure colour, or if it has been gathered in plains or damp valleys, it should be regarded as of inferior quality. On chemical analysis, according to the experiments of Vauquelin, Wiggers, and others, it yields nearly half its weight of oil, resin, wax, fatty matter and gum, all hydrogenous principles, and a little albumen and nitrogenous extract. If the season has been a wet one, or if the ergot has been gathered in moist places, these principles lose their relative proportions, and the spurred rye approaching nearer in quality to good grain, contains but few oleo-resinous principles. It is worthy of remark, that this parasitic grain is only met with on the finest plants of rye in shady places, and towards the ends of fields recently cleared of wood, and where the carbonic principles and a rich soil abound. The author details the genealogic evolution of the ergot, which he has traced in the fields, with the microscope in his hands.

Treatment by Ether.—On treating the ergot with ether, a fatty oil, and fatty resinous matter is obtained. To separate these two substances, it is sufficient to place them in a funnel; the fatty resinous matter rises to the top and floats. This matter is composed of cerine, and white crystals of a bitter taste. The semi-resinous substance is of a reddish brown colour, of the consistence of syrup, and of an acrid, pungent, and slightly bitter taste, has a nauseous, narcotic odour, and is not saponifiable either with the hydrate of potash, or liquid ammonia. A pound of the ergot with four times its quantity of ether at 75° of Beaume, yields about an ounce. The oil is of a reddish colour, has a nauseous resinous odour, and a bland taste, but leaving behind it a somewhat rancid impression. Its consistence is similar to that of castor oil. Treated with alcohol, its colouring resinous principle is dissolved, and a clear colourless oil, of a bland taste, is left. The ethereal resinous oil is not saponifiable, but that which is obtained either by expression, or by heat, is so. Potash separates it into glicerine, and two fatty matters analogous to those of the common fixed oils, soluble in tepid water. Ammonia converts it into a soluble liniment, as it does the common oils. The same oil, deprived of resin, may be obtained by expression. In this way the author has obtained 4 ounces from 8 medicinal pounds weight of the ergot, consequently the ether extracts a larger quantity. On evaporating the alcohol in which the resinous matter has been dissolved, a resin of an obscure coffee colour is obtained, of a semi-solid consistence, a nauseous, slightly acrid, and bitter taste, *sui generis*, and a strong narcotic odour, peculiar to the ergot of rye. A clearer oil, not resinous and almost inert, may be obtained by means of ether, if we employ ergot which has been previously boiled in concentrated alcohol, and thus deprived of its resinous principle.

Treatment by Alcohol.—If a pound of ergot is allowed to macerate for a day or more in four pounds of alcohol at 38° or 40° of Beaumé, anda fterwards gently boiled for a quarter of an hour, by means of a water bath, or what is still better, allowed to remain for the space of an hour at the boiling point, a tincture of a vinous colour is obtained, which, on being evaporated at a temperature of 40°; or, by the heat of the sun, yields nearly half an ounce of a semi-resinous substance, whose composition consists of a true resin, segaline, fatty oily matters, and an extract, vegetable osmazome, thus named before Berzilius had demonstrated its composition. On dissolving this alcoholic extract in water or ether, the nytrogenous principle remains in solution in the water, and insoluble in the ether. If a very concentrated alcohol be employed, and a large quantity of the extract be dissolved in the alcohol, then there is obtained a resin separated from the fatty matter which remains. In fine, if we wish to procure the powder called *segaline,* the boiling alcoholic tincture must be employed in the quantity of several pounds, and filtered at a high temperature. In this manner there will be obtained, in cooling, a mass of obscure, fat, glutinous matter, which, on being dissolved in ether, loses a part of its fatty matter, and leaves a sediment of a deep colour, which, on being dried, becomes reduced into a somewhat hardish greasy powder, of an odour *sui generis,* and of a slightly bitter and acrid taste. It is the *segaline* or *ergotine* which is contained he says, when the resinous extract is dissolved in a quantity of alcohol scarcely sufficient to saturate the resin; the segaline remains undissolved. The active principles of the ergot are the oil, the resin, the segaline, the fatty resinous substance, the hydro-alcoholic, and watery preparations.

Oil of Ergot.—It is essential in practice that a distinction be made between the oil obtained by expression, and that deprived of resin. The latter has no action. The resinous oil is the most important in fact, the only one that should be employed in medicine. The clinical experiments made by M. P. with this oil, in hospital and private practice, amount to upwards of a hundred. A few drops suffice to produce the most powerful effects, as has been already seen. Similar effects may be obtained by means of the powder, but it must be given in large doses. There are detailed three additional experiments with this oil, on man both in a state of health and disease, and also on animals, but these merely confirm the results already stated.

Resin or Resinous Extract.—It cannot be doubted that this substance is the really active principle of the ergot, if we call to mind the effects obtained by it in the preceding experiments. In order, however, to remove all doubts on the subject, direct experiments were instituted by the author. Fourteen clinical observations are given, and many others on animals.

The first series relate to cases of angina, bronchitis, gastritis, rheumatism, pulmonary hæmorrhage, pleuro-pneumonia, pneumonia, and phthisis with or without hæmoptysis. In all the cases the remedy was given simultaneously with bloodletting, as a co-adjuvant to the latter means. We shall only give the cases of phthisis as being the most important, in so far as regards the wants of therapeutics. The author has already published several incontestible cases (?) of phthisis cured(!) by means of the ergot. In one of these there was dissection at an after period, and he was able to show cicatrised cavities.

CASE 8. *Phthisis.—Cure.*—A young girl, aged 14, born of an unhealthy mother, was herself small in stature, scrofulous, and emaciated. Her menses had never appeared; and she had been subject to cough for a considerable time. In March 1843, after exposure to cold, when in a state of perspiration, she immediately experienced a sensation of fullness in the chest (*congestion vers la poitrine*), accompanied with cough and fever. For upwards of three weeks she was submitted to no other treatment than that of being twice bled; there was great emaciation, night sweats, copious expectoration, elongated face, flushed cheeks, colliquative diarrhœa, and enormous swelling of the sub-maxillary glands of the left side. On admission into hospital on 20th April, she had smart fever, with pulse at 120, the skin was hot, at times dry, at others covered with partial sweats of a viscid character, and confined to the chest, the respirations were accelerated to 37. On examining the thorax a dull sound was perceived to a considerable extent over the superior part of the left side; there was bronchial sibilation, and at different points a slight gurgling, with bronchophony; she had a hollow cough, accompanied with copious purulent expectoration of a globular form, floating in a small quantity of serum, and of a horribly fetid smell. The left lung then was seriously affected, and even cavernous. The state of emaciation in which the patient was, and her tender age, did not permit of blood-letting; but four grains of the resin were prescribed morning and evening, and to be continued for two days, the 20th and 21st April. Subsequently four grains only per day, on the 22d, 24th, 25th, and 27th of the same month. The same dose on the 3d and 4th May. The tolerance of the remedy was perfect. At this period the state of the patient had become remarkably improved. On the 20th May all chest symptoms had disappeared, she was *cured.* (!!) She had regained flesh and strength, and had even taken a little wine which her relations had brought her in secret, and without experiencing any other bad effect from it, beyond a slight cough and diarrhœa which speedily disappeared. On the 30th May, she left the hospital in a most satisfactory state, she was considered *radically* cured, (!!!); and up to the 20th of August, the period at which the author wrote, she continued in perfect health.

Case 9. *Phthisis with hæmoptysis.*—A nurse, aged 45, of a lymphatic constitution, with dark skin, and of a tall thin make, and narrow chested, was taken into our author's wards on 25th April. She had been liable to repeated attacks of hæmoptysis for several years past. She, nevertheless, continued her duties till January 1843, at which period she was seized with violent cough, and copious and repeated hæmoptysis. These having been neglected, she was, when brought under the author's care, in a state of complete marasmus; the respirations were 33, short and hurried; there was hectic fever; the pulse sharp, 98; skin hot and dry; tongue furred and dry; constant thirst. The cough was very troublesome, and accompanied with either a sanguineo-purulent expectoration, or one purely bloody. There were dull sounds on percussion over the left scapular region, and gurgling, with large bubbles, was heard superiorly. Over the anterior region of the same side, the respiratory murmur was bronchial and intense; decubitus was easy on the left side only. Notwithstanding this serious state of matters, eight grains a-day of the resin were prescribed for three days. On the second, even, the patient had improved to the astonishment of all the assistants; the respiration had become less oppressed, and the cough easier, the sputa less abundant, and more serous and whitish; the fever notably diminished; pulse 75. The third day, pulse 67; marked amelioration in all respects; this amelioration continued to the 2d May, (8th day of treatment,) when there was again increase of cough, and expectoration, oppression, gurgling, and increased dullness of sound on percussion. Such exacerbations being not uncommon in the course of treatment of these diseases, the author was not discouraged, and recourse was again had to the resin on the 2d and 3d May. There was immediate improvement, which was progressive and lasting, so much so, that on the 12th of the month, the patient was completely convalescent. The medicine produced in her no other inconvenience than slight nausea and somnolence for the first day or two, and cramps in the calves of the legs on the fourth. She was kept in the convalescent ward for a considerable period: her cure remained complete. She left on the 19th June, having regained strength and flesh, suffering in no manner of way, and offering no appreciable remains of her chest disease.

Case 10. *Phthisis.*—For some time the author was in doubt whether this case ought to be classed under chronic pneumonia, or phthisis. On the one hand, an inflammatory state was evident, but on the other, there could be no doubt as to the presence of cavernous excavations. The case was that of a workman, aged 32, admitted 8th June 1843, on account of chronic pneumonia of the right side, which he had contracted seven months previously, whilst pursuing his trade as a lander of wood from the river. His constitution was robust, sanguineo-bilious, height of a middle size, skin, eyes, and hair, brown. His disease had reduced him to a cachectic state, with general emaciation; his face had a pale waxy look; the respirations were 34, short, and hurried; there was holow cough, most troublesome during the night, and of so loud a character as o prevent the other patients sleeping; constant expectoration of pure pus, in hape like rounded piastres, and mixed with a large quantity of syrupy-looking erum. The right side of the chest was œdematous, and more prominent than he other. It yielded a dull sound, obscured by a rough sibillation and gurgling uperiorly. There was intense fever, with sharp vibrations of the arteries; pulse 7; pungent heat of skin; tongue furred. He had already been bled nineteen imes during the course of his disease; the blood had always been buffy, and he ad experienced relief after each bleeding, but notwithstanding, the disease always retained the ascendancy. The day after his admission, 9th June, he took wenty centigrammes of resinous extract, and this was continued daily, someimes in the same dose, sometimes reduced to a half, till 3d July. He took in ll two grammes and a half of the medicine, (48 grains) without presenting the east sign of intolerance, or suffering any inconvenience in the stomach, extrenities, or otherwise. The state of the patient improved daily in the most surrising manner; the most formidable symptoms were the first amended, and he first to yield; the disease gradually disappeared, and his health on 4th July was so much restored, that he was able to rise; both cough and expectoration were gone, the fever had disappeared, the respiration was easy; and the appetite nd strength returned rapidly. The patient was restored to his family, perectly cured.

CASE 11. A young peasant, aged 25, of a scrofulous constitution, having een obliged to work for some years in a subterranean chamber, had contraced goitre, hypertrophied glands, and cough. In July 1842, her usual work ailing, she went to the harvest as a reaper. The great heat, to which she was naccustomed, and the unwonted fatigue, rendered her much worse; she had epeated attacks of hemoptysis, with severe cough, and difficult respiration. During eleven months she was treated for these complaints, and had been bled ight times. The cough and hemoptysis, notwithstanding, continued unabated, he respiration was laborious, and she had feverish attacks at night, accompaned with rigors. She was received into hospital on the 23d May 1843. On examiation, there was discovered tubercular suppuration, pectoriloquy, and distinct gurgling; echo in the right subclavicular region; the sputa were grumous and anguinolent, cheeks flushed, general marasmus, pulse strong and full, 101, repirations 27. The patient was put upon the resin and segaline. The treatment lasted sixty-five days, and the quantity of the medicine taken was 116 grains. The author satisfied himself in the case of this patient, as well as in hat of many others, that a few drops of ether added to the resinous extract, notably augmented both its intensity, and its duration of action. In this paient the pulse fell to 65, but on adding the ether it came down as low as 40, nd she became exceedingly weak. On stopping this addition of the ether and esuming the simple resinous extract, the pulse immediately rose to 46, subsequently to 55. The patient left the hospital on 25th July, in a truly satisfacory state,—the only remains of such a serious complaint being a slight moist gurgling in the diseased region. She was sent to the country in hopes that change f air would complete the cure. In November, she was again admitted into hospial, on account of dysmenorrhœa of three months' standing, and symptoms of hypertrophy of the heart. Examination of the chest showed that the cavities were completely cicatrised, and the lungs sound. For a fortnight there had been some slight cough, but this was speedily removed by means of a few small doses of the resin. [The details of another case similar to the preceding are given.]

Segaline or Ergotine,—Is a neutral powder, of a dull red colour almost ike cinchona, soft and unctuous to the touch, has a nauseous smell, similar to hat of the ergot in powder, and a pungent, acrid, bitter, nauseous taste. It is soluble both in concentrated acetic and sulphuric acids, and in pure hot alcohol: t is insoluble in water and ether. Its peculiar odour is increased by gentle heat; if strongly heated it becomes soft, and exhales an odour like that of roasted fish, and becomes carbonified. The manner of obtaining it has been already detailed. Different opinions have been entertained regarding the action of this substance. Wiggers regards it as the poisonous principle of the ergot, whilst Bonjean, on the other hand, believes it to be perfectly inert. The author has made many experiments on the subject. He gives the details of these experiments, as well as two clinical observations, from which it appears that the ergotine, prepared as directed, has an action similar to that of the resinous extract, but is much less energetic.

Infusion and Decoction.—The facts published by various authors, and those peculiar to M. Pardu himself, leave no doubt, he says, as to the true action of these two preparations. He has satisfied himself, by comparative and incontestible experiments, that this action is much less energetic, and less certain, than that of the simple ergot. And the reason is, that by infusion or decoction the remedy is deprived of its most powerful elements, the resin and the oil.

Hydro-Alcoholic, Watery, and Hemostatic Extracts.—Bonjean has put forth opinions in regard to these, which M. Pardu thinks medical men cannot adopt, if they will take the trouble to interrogate nature for themselves at the bed-side; he affirms that the watery extract is the medicinal principle,—the principle which acts in the arterial parietes and hyposthenises them,—the oil, on the other hand, being the poisonous principle, and the resin an inert body. From what has preceded, however, it may be seen how hazardous such assertions are. Clinical observation shows, in fact, that all these products have an analogous action, but in various degrees; and that the watery extract, named by Bonjean hemostatic, is in this respect the feeblest of all. He proves this assertion in detail by new facts. Here follow some comparative experiments, and a case of gastro-enteritis with hematemesis, and another of chronic diarrhœa, cured by large doses of the watery extract. In his own person it required 4 grammes of this extract to produce any hyposthenic phenomena, whilst the oil acted in the dose of a few drops.

From the preceding remarks, then, it follows,—

1st, That the active therapeutical, or poisonous agent of the ergot, is one and the same in all its preparations. 2d, It is of a resinous nature. 3d, It is to a modification of this principle that all the preparations of the medicine, including even the infusion, decoction, and watery extract, owe their chief powers. 4th, The therapeutical or poisonous action of these preparations are in the ratio of the quantity of resinous principle they contain. 5th, The watery and hemostatic extracts sometimes produce unfavourable effects, if given in large doses, corresponding to a given quantity of their resinous principle.

Thus, then, the ergot forms no exception to the laws which regulate other medicinal substances, viz. that the active principle is diffused through all the elements. When quinine is extracted from cinchona, morphine from opium, prussic acid from cherry laurel, strichnia from nux vomica, &c., there still remain substances not totally inert, because all of them contain other analogous principles, as narcotine, oil of cherry laurel, brucine, cinchonine, &c., but these are all of inferior quality and power. Although M. Perdu has obtained the most powerful effects with the resin of ergot, both as a remedy and as a poison, yet he has also been able to effect cures by means of some of the other products, when they have been given in suitable doses. And accordingly, the hemostatic extract is not destitute of all action, since it may contain, independently of its resinous oil, some other principle of analogous properties, but of which we are ignorant.

From the preceding facts, then, it is evident that the ergot, either in its natural state, or submitted to pharmaceutical preparation, produces one and the same action,—depression of force; and that this action can alone be counteracted by means of alcoholic stimuli. If the pulse sometimes rises under the influence of the remedy, it is because the vital forces are oppressed by a mechanical action, as in apoplexy, hypertrophy of the heart, or congestion; but the same thing takes place, after bleeding and the use of tartar emetic, in paralysis, apoplexy, and amaurosis; the functions are set at liberty from the relief afforded to the organs. Does the counterproof correspond to these deductions? What is the effect of uniting the ergot to a stimulant remedy, opium for xample? (The author here relates a few experiments:—on taking a mixture f a gramme of ergot, and 15 centigrammes of opium, little effect was produced; he two actions neutralized each other; whilst on taking these two substances eparately, and on different days, there was accordingly depression or excitement. Here follow some cases of gastro-enteritis, in drunkards, with and without diarrhœa, cured by means of the ergot.

The author finally comes to the *obstetrical applications of the remedy*, nd to the consideration of those uterine affections in which it may be prescribed with advantage; he relates several interesting experiments instituted n pregnant rabbits; in these, if they were weakly, the ergot produced abortion; hen they were robust the medicine acted as a mortal poison, but did not produce abortion; in these latter cases the uterus was thickened and very vascular. he whole of these animals lost flesh under the use of the ergot, and their young ere diminutive. The author concludes that the ergot is not capable of directly nducing abortion; on the contrary, under certain conditions it may even prevent t. He cites a number of cases collected from books and his own practice, in roof of this assertion; he also gives some cases of organic affection of the terus, and of flooding, relieved or cured by means of this remedy. The author elieves, that on the whole, the powder is the best form in which it can be iven in practice, provided the stomach is not too much disordered by its nechanical action.—Abridged from three numbers of the *Annali Universali di Medecina* for 1844.

[We regret the want of a general summary at the end of this important essay,—certainly the most complete that has yet been written on the subject.]

On the Therapeutic Action and Uses of the Ergot of Rye. By M. Sachero, Professor of Clinical Medicine at the University of Turin.

I. General Remarks.—The author commences his paper by showing that, from time immemorial the ergot of rye has been used as a means for accelerating the progress of labour; but powerful as it is as an agent for attaining this end, he believes that it is only capable of doing so when the process has already commenced, and that to ensure success, even then, it should not be administered at too early a period. The fact that the ergot acts only in this manner, he considers a very important one; for, were it otherwise, it might be often used criminally for the purpose of causing abortion. In proof of this view, that the ergot acts more as an assistant than as a provocative to labour, he cites the following case: The mother of a family had become pregnant in a clandestine way, and was desirous of procuring abortion; with this intent she took for a considerable period, pills composed of the ergot, containing two grains in each, but without effect; having reached the eighth month, she commenced taking five of the pills at a time, twice a-day; in the course of twenty days, she took two drachms of the ergot, but with no other effect than that of causing slight pains in the loins, and some disorder of the stomach. At the end of the ninth month she was safely and easily delivered. It would appear that the child, however, had suffered from its use, for its skin was very red, and covered, here and there, with a concrete and adhesive albuminous substance; it was sickly and feeble, and lived only twenty days.

This fact, then, he considers as proving that the ergot of rye, even in large doses, does not excite abortion, provided the mother and child are in good health. And this conclusion is not overturned by what occurs in the convulsive gangrenous affection arising in pregnant women from the use of bread containing the ergot, because in this case there is a true poisoning, by means of which the conception is destroyed, and then the uterus, sooner or later, contracts and expels the foreign body, as always happens, whatever may have been the cause of the death of the fœtus.

The abuse of the ergot of rye in pregnant women may thus cause the death of the fœtus, and at last either produce abortion or parturition; but the inducement of labour, thus ascribed to the medicine, is only produced by its having first destroyed the child, whose body afterwards causes uterine contractions, and, by the continuance of the medicine, these latter may be sustained.

Those who have been in the habit of administering the ergot in tedious and difficult labours have not failed to observe that it had also a power of arresting hemorrhage, more especially in cases of abortion. Hence the name hæmostatic. It has been given for this purpose by Atlée, Shaleross, Dewees, Marshall Hall, and Speirani of Pavia; the latter, in his clinical researches, prescribed it, not only in uterine congestions and menorrhagia, but also in epistaxis, pulmonary hæmorrhage, and hæmaturia. The experience of Speirani as to its usefulness in pulmonary hæmorrhage is confirmed by Sachero, who cites two cases of abundant hemoptysis cured by it. It has also been used by Bazzoni, who, in 1831, published a work on the subject, in which he announced the following conclusions; 1st, That the ergot of rye is a certain remedy in uterine hæmorrhage and leucorrhœa. 2d, That the disagreeable sensations caused by it in the head are merely temporary. 3d, That, if administered with prudence it is without danger. 4th, That it is equally efficacious, whether the discharge be active or passive. 5th, That its use is beneficial, even in those cases where the uterus and its appendages are affected with organic disease. 6th, That menstruation is not disturbed by its use. In the same year Pignacca also published some cases of hemoptysis and menorrhagia cured by the same means; and similar facts have been published by Cubini, F. Müller, and others.

The investigations of M. Sachero, however, as to the employment of this substance as a therapeutic agent extended still farther. "Reflecting," he says, "on its beneficial effects in urethritis in man, effects due to its hyposthenic action on the vessels of the mucous membrane; I conceived that the same action might extend to the mucous membrane of the whole genital apparatus, and in consequence, I tried the use of the ergot in involuntary seminal emissions, and particularly in cases the most obstinate; the result exceeded my expectations; the cure was invariable; and I believe I have solved the problem which perplexed Lallemand and others. I published my observations on this subject in the *Giornale delle Scienze Mediche* in 1839. In the four cases which occupied my first note, I had remarked that there was irritation of the gastro-intestinal mucous membrane, and this led me to believe that seminal emissions had their origin in a hypersthenic state of the mucous membrane of the genital organs."

Some details regarding the good effects of the ergot in intermittent fevers and paraplegia are here given.

The latter facts confirm the author in the opinion that the elective action of the ergot is specially directed to the inferior portion of the spinal cord. He cites some cases of obstinate bronchitis, from his clinical reports, which yielded as by enchantment to the use of this remedy; and, lastly, a case of severe otorrhœa which ocurred in a young lady of a lymphatic temperament, who, after angina, was attacked with suppurating otitis, accompanied with head symptoms and a fever. Repeated blood-letting and the other usual remedies were tried, but without the least avail. Injections into the ear were then tried, consisting of an infusion of the ergot, made with 4 grammes of the latter to 120 grammes of boiling water, the medicine was, at the same time, given internally; there was immediate melioration, and a complete cure followed in the course of a month.

II. Pharmaceutical Remarks.—The following details as to the mode of treating the ergot M. Sachero owes to personal communication with M. Bonjean, the celebrated pharmaceutist of Chambery, whose analysis of ergot is the most careful and recent which we possess. The active principles of this powerful remedy may be reduced to two; the watery extract soluble in cold water, and the resinous extract soluble in alcohol. Desirous of studying the effects of these extracts separately, he caused M. Abbene, apothecary to the Hôspital Saint Jean, to prepare a certain quantity of each. The following was the method pursued: Three medicinal pounds weight of the powdered ergot, of good quality, gathered towards the end of harvest when in a state of maturity, were treated with boiling water by displacement, and a liquid obtained which, on cooling, deposited a sediment composed of the resinous extract, and a portion of gum; the fixed oil rose to the surface, and was easily separated by decantation. The diaphanous iquid evaporated by means of a water bath, yielded 245 grammes (8 oz.) of watery extract, to which Bonjean has given the name of hemostatic extract, (extrait hémostatique) and which is composed of ergotine and a little gum. The sediment mentioned above, as well as that remaining in the filter, was afterwards treated with alcohol at 25°; and this solution, filtered and evaporated, yielded 20 grammes of resinous extract. Thus the ergot, in these operations, yielded nearly a quarter and a half of its weight of watery extract; and hardly a 57th of resinous extract. He does not consider it necessary to give any details respecting the oil, whose proportion may be about 35 per cent., and for the reason that it has no special action on the uterus; its use, moreover, is not unattended with danger. In a letter lately sent by M. Bonjean to the Academy of Sciences, through M. Dumas, he stated that he had discovered a method of free ng the hemostatic or watery extract from the albumen which it contains, by submitting to ebullition, by means of a water bath, the solution made with cold water by the method of displacement: the ebullition causes the albumen to coagulate, and it can afterwards be readily separated. The purest extract is that obtained by evaporation; the author names it ergotine, but this is incorrect, as it s not a simple body. When boiling water is used for the first method by displacement, there is this double advantage, 1st, That of coagulating the albumen mmediately, which can be afterwards separated from the liquid; 2d, It is not necessary to leave the liquid for any length of time in a state of rest, as done by Bonjean, to obtain the resinous extract, as that is effected by the simple act of cooling. Decompositions, so frequent, especially in summer, are thus avoided.

III. Dynamical Action.—Having thus obtained a sufficient quantity of the wo extracts, he instituted a series of experiments to determine the dynamical action of each; that their action would not be identical, he conceives, might be conjectured from their appearance; the watery extract is of a reddish brown colour, with a smell of ozmazome, and has a slightly pungent and bitter taste, imilar to that of spirit grain, but not astringent; whilst the resinous, on the other hand, is of a deep brown colour, with no particular smell, and is very pungent and slightly bitter to the taste.

A. *Watery extract.* The astringent (hemostatic) power of the ergot, whether given in powder, infusion. or decoction has been long known. It is probable hat if the infusion be used, more especially after allowing it to cool, we obtain only the watery extract or ergotine of Bonjean: consequently this form should be preferred if we wish to control hemorrhage, or any other discharge arising rom acute or chronic inflammation, such as leucorrhea, or purulent discharge rom the ear. The facts already cited prove this. But it is to Bonjean we are ndebted for having proved by experiment, that the hemostatic power belongs xclusively to the watery extract. Some cases follow here of uterine hemorrhage arrested by means of this substance. It was also given to two women in labour, which was advancing slowly, with sluggish contraction of the uterus. 30 grains of the extract, (a gramme and a half,) were prescribed in 120 grammes of water; no effect followed; and uterine contractions only appeared some hours later, consequently they could not in strictness be attributed to the remedy. "It appears, therefore, that the watery extract, instead of hastening labour, retards it, and that the power of producing uterine contractions does not belong to this ngredient of the ergot."

B. *Resinous extract.* In consequence of the latter supposition, he should next have proceeded to enquire if the resinous extract possesses the power of nducing uterine contraction. But facts, he says, are yet wanting to decide he question. As far as is known, however, it would appear, from the experiments instituted by Bonjean on rabbits and dogs, that it has no sensible effect upon them. Our author tried the effect of it on his own person, and also on hat of a friend considerably younger than himself. "I took," he says, "at eight in the morning, and with an empty stomach, 16 centigrammes (5 grs.) of he resinous extract, prepared by M. Abbene, and made up into a couple of boluses, with the extract of violets; the one was taken at the time mentioned, and the other in the course of an hour. I had hardly swallowed the first dose when I experienced a sensation of heat in the throat, nausea, and oppression at stomach; these sensations were felt for a quarter of an hour, and they returned, but with less severity, after the second dose. At a later period, I felt some heat and itching at the base of the glans penis; and during the course of the day a few drops of mucus escaped from the urethra." His friend took the medicine in another form. He dissolved 25 centigrammes in alcohol, diluting it afterwards with water, and he took the whole in two doses; he experienced some pain and heat of stomach, then pain in the bowels, after which the latter were moved; his habit was usually constipated. Ten days after, Sachero again repeated the experiment on himself; taking 10 grs. in two doses, he experienced merely a sensation of heat in the bowels, and some smarting in the urethra. Six days after he tooks 15 grs. with nearly the same effects. No other conclusion, he thinks, can be drawn from these experiments, than that the resinous extract is perfectly harmless. Bonjean had already arrived at the same conclusion in regard to the watery extract; and this circumstance would lead us to believe, with this eminent chemist, that the poisonous principle of the ergot is the oil already mentioned. In conclusion, M. Sachero agrees with those accoucheurs who believe that the most suitable form in which the ergot can be given is the simple powder, and that without submitting it to any further preparation.

C. *The fixed Oil.*—It has been already stated, that according to the analysis of Bonjean, the quantity of this oil in the ergot may amount to about 35 per cent., and that it is this element which constitutes its poisonous principle. It produces on animals all the symptoms of poisoning by the ergot in substance; and the same appearances are found in the body after death.

IV. CONCLUSIONS.—From what precedes, then, it follows, 1*st*, That the watery extract (hemostatic extract or ergotine of Bonjean,) is a hyposthenic remedy acting on the general vascular system; and that by means of it we can control hemorrhage, morbid sero-mucous discharges, and lessen over-action of the heart. Its action is clearly demonstrated to be on the vessels of the uterus, because, by its aid we can control menorrhagia, threatened abortion, slight metritis, and excitement of the uterine capillaries. The circulatory system being dependent on the great intercostal nerve, it follows that the action of the watery extract extends to this nerve, and its numerous ramifications, as especially to those which preside over the life and functions of the uterine vessels. 2*d*, The resinous extract, probably acts as a stimulant, and its action extends to the nerves both of sensation and motion of the uterus. It is highly probable that when the ergot is administered in powder, it is in this extract that the principle resides which rouses into activity the inert uterine contractions, which had previousl ycommenced. 3*d*, The action of the ergot, when administered in its natural state, appears to be of two kinds; the one, as in labour, affects the sanguineous system, the energy of which it diminishes (hyposthenises) by means of the ergotine; the other, is upon the nerves of the uterus, which it stimulates by its resinous principle. To this double action must be added a third, equally hyposthenic, that of the oily or poisonous principle. Thus, then, in practice, several indications may be fulfilled by the isolated administration of these principles, and by the ergot in its natural state. The study of these cannot fail to extend its power, as a therapeutic agent, when we have first determined the special circumstances in which they should be applied. 4*th*, The ergot only acts beneficially in labour, if this process has already commenced, when the amnion is ruptured, the position of the child natural, and the uterine contractions have been arrested or enfeebled, either by oppression of the forces, or by actual debility. In this latter case, the resinous extract is to be preferred to the watery or ergotine, consequently, the ergot has no effect in inducing abortion, or labor, unless there is previously a commencement of uterine action. There is, nevertheless, an exception to this rule; and that is when the fœtus is dead, or the uterus contains a tumour; but when this occurs the uterus is in an unhealthy state, and, most generally, the ergot only acts by exciting the organ to contract, or facilitates and hastens the operation if already begun. If the ergot is given in large and repeated doses, previous to the commencement of labour, it either destroys the child, producing immediate labour, or at all events it sickens it. *5th*, Its use is strongly indicated in hemorrhage, arising from partial detachment of the placenta. In this case, life, as is well known, is in danger, if the flooding is great and labor not speedily accomplished. The ergot in its natural state, or one or other of the extracts, may be prescribed, according to the state of the patient. There are cases where the woman suffers from a true and general plethora of the uterus, recognisable by the state of the pulse, which is full and slow, dyspnœa, the swollen state of the veins of the hands, legs, and feet, which become blue, and by a severe throbbing headach. In these cases the patient should be bled once or twice, and then, if the uterus still continue inert, the ergot in its natural state may be prescribed, if it is thought proper and necessary to excite labour; if this is not considered desirable, then the ergotine should be had recourse to, if we wish to prevent hæmorrhage and abortion. A bleeding should always precede the remedy in cases of congestion of the uterus. *6th*. If the uterus does not expel the placenta spontaneously, within a few hours after the birth of the child, the use of the ergot re-excites the contractions in the course of seven or eight minutes, or in a quarter of a hour at most. *7th*, In the preparation of the remedy it is an essential circumstance that the ergot be not gathered till it has reached a state of perfect maturity, towards the end of harvest, and in places with a free eastern exposure. If it be not perfectly ripe, it has either no action, or it is very feeble, as shown by the experiments of Bonjean. In this case it merely contains a little watery extract or ergotine, but no fixed oil, and, consequently, is not poisonous. It is probable that it has been owing to the different degrees of maturity of the ergot, that the different effects, observed by certain authors, are to be attributed. It is also known that the ergot loses its virtue if it has been gathered more than a year, or if it is worm-eaten, has been exposed to the air, been roasted at too high a temperature, &c. It should only be reduced to powder when about to be used. *8th*, It is more advantageous to give the ergot in small and repeated doses, than in large ones which are often rejected by the stomach. An agreeable way of giving it is to suspend it in mucilage and add some aromatic syrup. We have already spoken of the manner of preparing an infusion by boiling water; the oil may be separated by decantation, and there remains the pure ergotine. The infusion may also be made with cold water. The decoction allowed to cool, is little more than an infusion made in the warm way.

This interesting article concludes with several cases of uterine hemorrhage cured by means of the watery extract; and with a case of abundant sero-mucous discharge from the genital organs, in a girl three years of age, which had resisted all the ordinary means of treatment, but was cured by a single dose (60 centigrammes) of the powder infused in warm water, and then allowed to cool.—Extracted from the *Giornale delle Scienze Mediche della Societa Medico-chirurgica di Turino*, in the *Annales de Thérapeutique;* and abridged.

Poisoning by Ergot of Rye.

A family of nine persons in Savoy were attacked with symptoms of poisoning after eating for three days of bread, the flour of which contained a certain proportion of ergot. The symptoms were those of hyposthenia, similar to what we observe in the lower animals to whom this substance has been administered, but fortunately death did not follow. On analysis of the bread and the flour, a quantity of ergotine and oil of ergot was obtained. The bread, particularly its soft part, had a bad taste. M. Bonjean, the chemist who performed the analysis, maintains that the soft part alone is poisonous in such cases, the crust being deprived of its poisonous qualities by the action of heat in the furnace; and consequently that caloric is capable, at least in part, of destroying the deleterious qualities of ergot. It is a question, however, whether the gases developed during the fermentation of the bread, do not exert a certain chemical action on the ergot.—*Gior. Med. di Turino*, quoted in *Annales de Thérapeutique.* April 1844.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 439 of the May number.)

May 1.—Dr Cowan, Councillor, in the chair.

Scirrhus of the Uterus.—*Dr Scott* read a case of scirrhus of the uterus in which none of the usual signs of that disease had appeared, but which, two years previous to death, presented all the symptoms of spinal neuralgia, constant cough without any indication of disease of the lungs, vomiting of food, exquisite pain almost to fainting on pressure of the spine, and progressive emaciation. The disease terminated fatally from slight uterine hæmorrhage. On examination, the lungs and stomach were found healthy; the uterus was scirrhous and enlarged, but without ulceration. Dr Scott considered it, in connection with the papers he had formerly communicated to the Society, as throwing great light on the subject of spinal neuralgia in general.

Abdominal Hydatids.—*Dr Gairdner* read a remarkable case of abdominal disease, in which he had twice withdrawn by paracentesis from the peritoneal cavity, a quantity of a glutinous substance, resembling in colour and consistence, calf's foot jelly, and coagulating, like the albumen of eggs, by heat. Some of this matter Dr G. had exhibited to the Society in January, but in a comminuted state, in consequence of having passed through the canula, and the valves of the syringe adapted to it for suction. After the death of the patient in February last, it was ascertained that the whole abdomen was filled with similar matter, amounting in all to about twenty-four imperial pints, and that it consisted of rounded masses having very much the same outward appearance as the ordinary acephalocysts of Laennec, but differing from them in many important particulars. These remarkable parasites had invaded the textures of the liver and omentum, as well as of some of the other viscera. The right lobe of the liver was entirely destroyed by them; the left partially; the omentum converted into a dense and almost cartilaginous tumour, of large size and great thickness, in which many of the parasites were contained, and from which many of them hung pendulous. Dr G., after detailing the facts of the case, gave a condensed account of the results of his inquiries into the literature of the subject. He found that extensive destruction of the liver by hydatids, was by no means uncommon, and that there were one or two recorded cases, and more especially a very remarkable one by Ruysch, in which the destruction of this organ appeared to have been equally extensive as in his own case. He had not been successful in finding any case in which the omentum had undergone a change of the same sort precisely with that which he had described. Finally, he had examined attentively all the systematic treatises on entozoa in general, or on hydatids in particular which were accessible to him, besides a great number of pathological works and individual cases in which they were incidentally described, and he had not yet found a single description of a parasite possessing the same physiological and structural peculiarities. He was therefore of opinion, that it was a rare one; and that, although it had in all probability been occasionally seen, its peculiarities had not yet been observed or described.

Structural and Physiological peculiarities of the above Entozoon.—Mr Goodsir read to the Society an account of the structural and physiological peculiarities of the entozoon found in Dr Gairdner's case, by Mr Henry D. S. Goodsir. Mr Goodsir, after quoting from his brother's paper, read to the Royal Society, a description of the animal in question, explaining more particularly the structure of the parasite,—stated as its most distinctive peculiarity, the fact, that instead of being like the common acephalocyst, a simple animal, it might be regarded as being of a composite nature. It appeared to consist of several cells having in their interior a glutinous matter contained in cellular tissue, connected together by a common membrane, extending from the free surface of the peritoneum over the surface of the various cysts, and forming their pedicles. On the surface of this membrane, except on the part covering the globular cysts, there were seen numerous circular discs, around the margin of which were a series of stomata opening into tubes extending into the substance of the membrane. These Mr Henry Goodsir regarded as being the nutritive organs of the animal. With regard to its reproduction, Mr Goodsir remarked, that this took place in two ways, one which respected the extension of the individual existing group, the other as regarded the propagation of the animal to uninfected tissues. This, like the common hydatid, did not enlarge from cellular development, but by simple expansion of the original germinal vesicle. As regards its propagation to uninfected tissues, Mr Goodsir stated, that he had been unable to trace the earlier process by which an ovum appeared in the healthy tissue, but he found that when this had occurred, the ovum enlarging makes its way like an abscess to the free surface of the organ, and bursts, leaving an orifice leading into a cavity of the tissue. The formation of these cavities gave to the peritoneum the honey-comb appearance, observable in Dr Gairdner's preparations. After the bursting of the sac, the animal is not discharged from the cavity, but remains attached by its common membrane to the base of the cavity, and then projects outwards elongating its outer membrane so as to form a pedicle.

Carotid Aneurism. By Dr Duncan.—Dr D. read the case of a woman aged 33, in whom he had tied the carotid artery for aneurism. The aneurism was of very rapid growth, having in the space of less than three weeks attained a very large size. On her admission into the hospital it extended from the angle of the inferior maxilla to about two fingers' breadth from the clavicle. Two or three days after her admission she was seized with spasmodic attacks of dyspnœa, one of which was followed by a state of complete insensibility, the pulse being almost imperceptible, and the respirations only five in the minute. Tracheotomy was performed by Dr D.; and on her rallying, it being apprehended that the sac of the aneurism might give way, the vessel was tied. Everything promised well until the 12th day, when inflammation of the sac of the aneurism followed, and a small ulcerated communication with the pharnyx formed. The sac was then freely incised, and the coagula turned out, but the woman died on the 15th day. No morbid appearances sufficient to account for death were found at the post-mortem inspection; and it was believed that the cause of death was spasm of the glottis, induced by irritation of the recurrent nerve, which was involved in the tumour.

Wednesday, May 15.—DR GRAHAM, President, in the chair.

On the Sources of Reproduction after the Death of the Shaft of a Long Bone. By John Goodsir, Esq.—Mr Goodsir remarked, that bone as a tissue, was to be regarded as extra-vascular osseous matter, accompanied by its membranes, which are three in number,—the periosteum, the medullary membrane, and the membrane lining the Haversian canals. As it is to this last membrane that the original formation of osseous tissue is owing, so, to morbid actions in it, can be traced many of the pathological conditions, such as inflammation of bone, ulceration of bone, &c. As to the sources from which osseous tissue is derived after the death of the shaft of a long bone, Mr Goodsir observed, that there were, 1*st*, portions of the old shaft removed by ulceration previous to its death, and, 2*d*, portions of the membrane of the Haversian canals remaining attached to the periosteum. Mr Goodsir did not believe that any new bone was formed from the periosteum, properly so called, or from the epiphyses, as had been supposed by some pathologists.

Dr Lawrie of Glasgow, (who was present as a visitor,) regretted very much that he had not been in time to hear the whole of Mr Goodsir's paper, but from the concluding observations which he did hear, he was glad to be able to agree with him—that bone can only be produced by bone. It appeared to Dr L. that considerable light was thrown on the reproduction of the shafts of long bones, by adverting to the process adopted by nature in the repair of flat and short bones. In flat bones, and in those of the skull, it is well known that bone is very slowly, if at all, reproduced; and that this holds true, whether a portion has been removed mechanically or has separated after necrosis. It is, however, worthy of remark, that ossific matter is formed more readily, and at an earlier period after an injury of the base than of the vault of the skull, and that the deposit is greatest on the inner surface of the bone. In injuries and necrosis of the bones of the face, restoration rarely, if ever, occurs. (Dr L. showed preparations illustrative of these statements.) In the lower jaw, on the other hand, new bone was more rapidly produced than in perhaps any other bone of the body. Whence this important distinction between bones so closely connected in position and function? It appeared to Dr L. to depend on difference in the structure of the bones themselves: on the presence of epiphyses and a large proportion of vascular cancellated structure in the lower jaw and long bones, and in their absence in the bones of the skull and face. Dr L. believed there was no instance on record of reproduction after the death of an entire bone, an extent of disease occasionally met with in the lower jaw. In necrosis of a large portion of the shaft of a long bone, the first step towards reproduction, was the separation of the dead from the living bone by a groove analogous to the line of separation in sphacelus of the soft parts. The next was the deposit of new bone on the living bone, close to this line of separation. The third was the extension of these deposits upwards and downwards until they met, and ultimately surrounded the dead portion of bone. In this process the periosteum seems to play no other part than that of affording a mould, on and within which the new bone may be formed. The dead portion of bone, so far from aiding and accelerating this process, always interferes with it, and in many instances arrests or prevents it.

Whatever conclusions may ultimately be come to on the physiology of the process, the great interest of the question merges in the surgical treatment of necrosis. Dr L. was of opinion that it consisted in removing the dead portion at as early a period as possible after the line of separation between it and the living bone had been completed. The outer case of the shaft almost always dies to a greater extent, both in surface and depth, than the cancellated internal structure, and the dead portion being thus held in its place by the living parts within it, is mechanically prevented from escaping in the early stage of the disease, and still more so in the latter stages, by being surrounded by new bone. To prevent its being thus enclosed, the dead portion should be exposed, and cut across, as near its centre as may be, with the bone forceps or chain saw, and the fragment loosened and removed. This had been repeatedly done in Glasgow with complete success, and had saved more than one limb, in the treatment of which amputation was the only alternative. In some rare instances the entire thickness of the bone dies, an ulcer forms over the upper or under end of the dead portion, and there being no mechanical impediment to its removal, the bone is thrust out at the opening in the soft parts, and can, without farther trouble, be removed with the dressing forceps.

This mode of treatment is peculiarly applicable to the leg and fore-arm, in which there are two bones. There are cases however, in which it may be had recourse to in the humerus and femur, and it is worthy of a trial before amputation is decided on. Dr L. showed a humerus which had been removed with complete success.

Dr L., in reply to Mr Goodsir, stated that the principal difference between them seemed to be as to the assistance given by the epiphyses in the reproduction of bone. Dr L. felt that he was under great disadvantage in not having heard Mr G.'s observations on this subject in his paper. There appeared to him to be specimens on the table showing that the epiphyses did form bone, and in those cases where necrosis extended up to or even into a joint, he could not avoid thinking that the epiphyses played a very important part in the reproduction. This point however was open for future observation.

He had always looked on cloacæ as analogous to fistulæ in soft parts, caused and kept up by discharge from the imprisoned dead bone.

On an Improved Construction of Aural and other Specula. By Dr Warden. —Dr Warden's paper will be found in the Periscope of last number of this Journal, page 626.

Wednesday, June 5th, Dr Graham, President, in the chair.

Gestation impeded by Encysted Dropsy—Relief by Paracentesis. By Dr Handyside.—The patient had borne three children, and had three miscarriages. During each successive pregnancy the enlargement, which was situated on the left side of the abdomen, increased, and when Dr H. was called, presented the characters of ovarian dropsy. On the last occasion, after completing her fifth month of gestation, she was repeatedly attacked by urgent and protracted fits of dyspnœa, produced by the enormous distension of the abdomen by the dropsical swelling, and there was imminent risk of an immediate miscarriage; upon this it was resolved by Drs Sidey, Pagan, and Handyside, who consulted together on the case, to afford the patient the temporary benefit of the operation of paracentesis, notwithstanding that the prognosis generally was so very unfavourable.

The fluid removed resembled that of ovarian dropsy, being of a viscid albuminous consistence, very tenacious on cooling, and solidified under nitric acid and heat. It was of a dark brown colour, and presented a trace of arterial blood, as if it had flowed from a very vascular cyst. Two and a half gallons was the quantity removed: and the patient became much relieved. She went on favourably till the thirteenth day after the operation, when she had the apprehended miscarriage, and sunk from the separation of the placenta, bleeding, and general exhaustion, before Dr Sidey was called.

On examination of the body, the fibro-serous cyst, which, previous to recourse being had to the trocar, had lain in contact with the anterior wall of the abdomen, was found to have receded into the left hypochondriac region, between the cardiac end of the stomach, the diaphragm, and the left angle of the colon, within the lesser sac of the peritoneum. It was found partially refilled, and on being incised discharged nearly a gallon of dark coloured fluid similar to that removed by operation.

The cyst, on its interior, presented well marked encephaloid tumours, which had protruded from its middle or fibrous coat. The stomach presented, underneath its mucous lining, two patches of the cerebriform deposit; minute tumours of the same character were situated on different parts of the anterior wall of the peritoneum; and the liver, which had attained three times its natural weight, presented the carcinomatous, mingled with the hematoid degeneration. Ascites, to the amount of one or two pounds, also existed, and was demonstrated by Dr H. to be the effect of the three-fold alteration of structure. The pelvic viscera (with the exception of the ordinary traces of very recent abortion, including separation of the fœtal membranes,) and the thoracic viscera, were healthy.

Case of Ascites, connected with a peculiar Parasite within the peritoneal sac. By Thomas M. Lee, Esq. (Communicated by Mr Goodsir.)—The patient, a woman 53 years of age, had been twice married, first fifteen years ago, and a second time nine years ago; had had two children, both during her first marriage. She was very healthy till after her second marriage, which proved an unhappy one; she began to lose flesh and colóur six or seven years ago, and seems to have had more or less of ascites for the last three or four years. She was first seen by Mr Lee in February last, and from that time till within three weeks of her death, the symptoms were, anorexia, aching in the lumbar region and along the lower margin of the ribs, abdominal tenderness, burning sensation at stomach and lower part of œsophagus, more especially after swallowing food or drink; the urine, which was scanty and sometimes passed involuntarily, was not coagulable by heat; she had no thirst, headache, nor bad taste of mouth; her tongue was clean and moist, her bowels were regular, and her pulse was seldom much above 70. For the last three weeks of her life, her bowels, which had been gradually getting less regular, were almost unmoved, and she vomited every thing she attempted to swallow; her tongue was slightly furred; she had a good deal of thirst, but fluids seemed to stick in the lower part of the œsophagus, until they were rejected; for the last four or five days however, she could swallow water freely. The conjunctiva became inflamed a few days before her death. Her mind continued clear to the last. The abdominal distension increased considerably during the time that she was under Mr Lee's observation, but not to such an extent as to interfere seriously with respiration. No tumours could ever be felt through the abdominal parietes, but on a vaginal examination being made, one or two small nodulated bodies could be felt through the upper part of the anterior wall of the vagina.

Dissection (*May* 13,) *two days after death.*—The cavity of the abdomen, which contained four or five gallons of a viscid greenish yellow fluid, having been exposed, none of the abdominal viscera could be seen, except a part of the colon distended with flatus, and projecting over the spine between the kidneys; the intestines were found to be firmly bound down to the posterior part of the abdominal cavity by a mass of gelatinous looking matter, of a structure somewhat similar to cooked tapioca, interspersed with irregularly rounded cysts of various dimensions, one or two being fully three inches in their longest diameter, but for the most part about the bulk of the larger sizes of small shot. The larger and many of the smaller cysts were covered by a strong membrane of a dingy colour, having somewhat the appearance of intestines, but sufficiently transparent to allow of its being seen that they were filled with other cysts of a smaller size. The peritoneum of the abdominal parietes was also studded with the same bodies, the larger ones being attached by a peduncle, generally so slight, that when they were pulled away no trace of their attachment could be distinguished. Single cysts of the same description were found adhering to the external surface of some of the larger ones. The smaller cysts were apparently attached more firmly to the peritoneum than those of a larger size. A considerable part of the peritoneum was also covered with a gelatinous looking matter, of a globular structure, but without the dingy membranous covering. The intestines were so firmly matted together that an accurate examination of them could not be made, but hardened fæces were found in some parts of them, and the vermiform process was inverted within the intestines. The uterus was not much larger than a good sized filbert, and lay imbedded in a mass of the gelatinous matter which was impacted in the pelvic part of the abdominal cavity, and which apparently prevented the bladder from contracting. No omentum could be seen. The peritoneum was a little wrinkled in some places from the effusion and subsequent contraction of lymph, (doubtless from the irritation caused by the presence of the parasite.) The liver, which was bound by a firm layer of gelatinous matter to the back part of the diaphragm was small, flattened, and of a soft consistence. The stomach was apparently healthy, but some patches of ulceration were observed on the mucous lining of the lower part of the œsophagus. The only kidney examined was small, but was not observed to present any morbid appearance. The substance of the heart was soft, and there was some osseous deposit about the aortic valves. The lungs contained some calcareous tubercles at their apices, but were otherwise healthy.

Description of the Hydatid found in Mr Lee's case. By Harry D. S. Goodsir, Esq, Conservator in the Museum of the Royal College of Surgeons of Edinburgh.—This acephalocyst was described by the author as very different from the *acephalocystus simplex*, and the other species already published under the name of *Diskostama acephalocystus.* The points, it was stated, wherein this animal differed from the species already alluded to, are of considerable importance, and of such a nature as to require the constitution of a new genus for its reception. To this hydatid the author applied the name of *Astoma acephalocystus.* The external form of the animal was globular, and the parent cyst, (the external surface of which was quite smooth) was composed of three membranes; the middle one of these was described by the author as being, along with the septa which ran from the internal membrane, the seat of the development of the gemmules, numbers of which were seen in all stages of growth. The modes of growth were then described and illustrated by drawings and preparations. The first of these modes, namely that for the extension of the species generally, was similar to the analogous mode in the *diskostama;* the other, namely, that for increasing the size of the original group, took place at the expense of the parent hydatid, which was burst owing to the distension caused by the great numbers of young within it, and which, thus set free, speedily became firmly adherent to the peritoneum, the parent cyst in the meantime being absorbed. It was suggested by Dr Gairdner, the author stated, that it would be interesting to have portions of the bowels of the subject injected so as to make out whether or not the parasites had any connection by means of the blood-vessels, with the infested being. Upon this being done, and a very minute injection thrown into the vessels, no vascularity whatever could be observed in the hydatid, whereas the surrounding tissues were most completely injected. Preparations were laid before the Society to illustrate this. The author then proceeded to describe a minute filaria which was found in the tissues of astoma.

Ligature of the Carotid.—Dr Duncan related a case in which he had tied the carotid on account of hemorrhage following extensive ulceration of the fauces. The hemorrhage was completely arrested by the ligature, and the patient did well until a bronchitic attack supervened, which proved fatal on the 14th day, from the patient being unable to expectorate the tough ropy mucus. Dr Duncan contrasted this case with one which he had communicated to the Society on the 1st May, in which the patient died at a similar interval after the operation. In the first case the process of obliteration of the artery was found on dissection to have been completed in every particular; in the latter case, the distal portion of the artery above was found closed with an internal coagulum of about half-an-inch in length. The dissected ends of the artery were separated from each other by more than one third of an inch, and without any effusion of lymph betwixt them. The cardiac end of the vessel was patent for about an inch from its divided extremity, and at this point was blocked up by a coagulum about three quarters of an inch in length, which alone had prevented the occurrence of secondary hæmorrhage. Dr Duncan was of opinion, that had the patient not perished as he did, secondary hæmorrhage would, in all probability, have ensued, as softening of the coagulum had already commenced.

Dr Cormack on Ipecacuan as a Counter-irritant.—Dr Cormack detailed the result of his hospital experience of ipecacuan as a counter-irritant in the form of ointment, as recommended by Dr Hannay of Glasgow. Dr C. had tried the ipecacuan in a great many cases, and in the proportion of 10 to 12 of them, it had failed to produce any eruption, even when the powder was in the proportion of half an ounce to an ounce of lard. In a few persons only, with a delicate skin, or who had had recent blisters on the surface experimented on, did he succeed in bringing out an eruption. The eruption was vesicular in three cases which were carefully observed. In the same persons on whose skin the ointment produced no effect, a good crop of pustules was in every instance brought out by one, two, or three frictions with a liniment of equal parts of olive and croton oil. Dr C. believed that there were many vegetable powders which would be found more active counter-irritants than ipecacuan.

Dr Handyside and Dr Douglas Maclagan stated that they had met with no good results from its employment. Their experience corroborated that of Dr C.

Strumous Lupus.—Dr Handyside mentioned that he had tried another practice of Dr Hannay's, viz. leeching in strumous lupus. He had met with very marked success in procuring cicatrization by this method.

Dr Walter Bruce, Dr A. D. Campbell, and John Crabbe, Esq., were admitted Ordinary Members of the Society.

Wednesday, 3d July. Dr HAMILTON, Vice-President, in the chair.

Dr Cormack showed the preparation of *congenital cystous disease of the kidney*, described at page 660 of this Number, and made a few illustrative remarks.

Uterine Diseases.—Mechanical Dilatation of the Cavity of the Os and Cervix of the Uterus, as a means of Diagnosis and Treatment, in some affections of that organ.—Professor Simpson first showed the difficulty which exists in ascertaining some of the morbid conditions of the lining membrane of the cervix and cavity, in consequence of the small size of the normal opening into the organ. He pointed out that this opening may, by the use of a succession of *sponge-tents*, be enlarged to such a degree as to overcome, in a great measure, this difficulty. The kind of sponge-tent which Dr S. has used, is made in the manner of that described in most old works of General Surgery. The pieces are pyramidal, of various sizes, and have a perforation in their base, to allow of their being temporarily fixed upon a curved wire or bougie, for their ready introduction into the os uteri. The bougie is withdrawn as soon as the sponge is lodged, and in a few hours the latter expands immensely in size. Previous to its introduction, a string is attached to the tent to allow of its easy withdrawal. Under the expanding power of the tent, the cavity of the os and cervix uteri may be dilated, and without any suffering to the patient, to such an extent, as to allow the finger to pass a sufficient distance for the purpose of ascertaining various points of diagnosis which could not otherwise be arrived at. Dr Simpson stated that he had employed the same means to facilitate some kinds of remedial and operative interference in this part of the body, such as the removal of those small vesicular polypi that are so frequently clustered upon the interior of the cervix.

In speaking of dilatation of the os and cervix uteri as a means of cure, Dr Simpson pointed out the results of this practice in the hands of the late Dr Mackintosh in the cure of dysmenorrhœa and sterility, connected with normal and inflammatory strictures of the os uteri. His own results had not been so successful as those of Dr Mackintosh; but he had now seen a considerable number of severe cases in which dysmenorrhœa that had previously resisted all other kinds of treatment, had at once yielded to the mechanical dilatation. Dr Simpson had found the stricture occasionally at the os internum, or opening between the cavities of the cervix and body, and not at the os tincæ. Dr Mackintosh had effected the dilatation with long straight bougies of different sizes. Dr Simpson had found them more easily used when slightly curved. He also showed other instruments, one of them like the dilator for the female urethra, which he had occasionally employed for this purpose. These instruments were all of them intended to be left in the os uteri for only a short period, and their introduction repeated from time to time, as in the usual treatment of stricture of the urethra in the male. Latterly Dr Simpson had in his practice thrown aside these, and used another form of permanent bougie for this purpose, and he considered them to be greatly preferable. These permanent bougies were made of Berlin silver, the stem or part included in the uterine cavity was two inches and a quarter in length, the lower ends which rested in the vagina were bulbed and enlarged to the size of a large almond, and were perforated below for the purpose of being placed on a temporary handle, used in the introduction. One of the instruments was left in the uterine cavity for three or four days, and by that time the part was so much relaxed, that another of a much larger size could, in general, be easily introduced. They could easily be borne without the slightest inconvenience, and, indeed, without the patient being aware of their presence. Dr Simpson pointed out that this permanent form of bougie altogether gave much less pain to the patient and less trouble to the practitioner; was more certain and expeditious in its effects, and was especially useful when the surrounding tissues of the lips and cervix were in any degree indurated. Obstructed dysmenorrhœa sometimes depends on other circumstances than ordinary strictures of the os. It is sometimes seen in connection with the conical hypertrophy and elongation of the cervix. Dr Simpson had found it in several instances accompanied with much morbid thickening of the anterior lip of the os uteri, the posterior lip being thin and healthy, and the os stretched out between them of an irregular crescentic shape. In such, and other instances, Dr Simpson had divided the os uteri on each side to the extent of a few lines with a very narrow knife or "*lithotome cachée*," and subsequently kept the part temporarily dilated with the sponge tent. He quoted cases of the perfect success of this simple and safe measure; it placed the parts in something of the same condition as that which they present subsequent to miscarriage; and this latter occurrence is known in general to leave without dysmenorrhœa those who have previously been labouring under that affection, whilst at the same time, women after aborting usually soon again become pregnant, there being no such great lacteal determinations to the mammæ as occur after parturition at the full period, and which seem then usually to interfere with the early repetition of conception.

Lastly, Dr Simpson offered some observations on the introduction of the sponge tent, into the os of the pregnant uterus, in certain conditions in connection with abortion, and as a means of inducing premature labour. When abortion was inevitable, and the hæmorrhage great, a small expanding sponge tent passed into the os uteri, was more effectual than a large vaginal plug. It at the same time opened up the os uteri, so as to allow of the more easy escape of the contents, whilst uterine contractions were, in most instances, ultimately induced by its presence. For the same reasons it was often a valuable means of both opening up the os uteri, and exciting the necessary degree of uterine action in those occasionally perplexing cases where, in abortion, the embryo escapes, but the secundines are long retained. Dr S. had employed the same simple means in inducing premature labour, and spoke of the advantages of it in comparison with the various other measures that had been proposed for that object. He found that the tent, when made and introduced in the mode already stated, required no vaginal plug, or other means to hold it *in situ*. By its use the first stage of labour, or the dilatation of the os uteri, could, in a great degree, be advanced, before the labour itself actually began.

Medico-Chirurgical Society of Glasgow.—At the period for private business, the Secretary read the following letter from Dr Lawrie of Glasgow, to which we are requested to give publicity, that members may be aware of the day and hour of the Glasgow meetings.

15 Moore Place, Glasgow, July 2, 1844.

Sir,—At a meeting held here on the 27th ult., at which "The Medico-Chirurgical Society of Glasgow" was constituted, and Dr Thomson, Professor of Chemistry in the University of Glasgow, was appointed President, it was unanimously resolved,—"That the members of the Medico-Chirurgical Society of Edinburgh be admitted as visitors, without any introduction." The Secretary was instructed to communicate this resolution to the Secretaries of the Medico-Chirurgical Society of Edinburgh, and to express the pleasure which the Society would feel at seeing any of the members of that Society at the meetings of the Medico-Chirurgical Society of Glasgow.

The meetings are to be held on the 2d Thursday of each month, commencing in March, and ending in October, at eight o'clock p.m., in the Faculty Hall, St Ench's Square.— I beg to remain, Sir, Yours most obediently,

J. A. Lawrie, M.D.,
Sec. Med.-Chir. Society of Glasgow.

To Dr Douglas Maclagan,
Secretary to the Medico-Chirurgical Society of Edinburgh.

"It was then unanimously resolved, on the recommendation of the Council, that the Secretary be instructed to acknowledge Dr Lawrie's letter—to thank the Medico-Chirurgical Society of Glasgow for their courteous communication,—and to intimate that the Medico-Chirurgical Society of Edinburgh have made their meetings open to the members of the Medico-Chirurgical Society of Glasgow."

The Society then adjourned to the first Wednesday of November.

HOMOEOPATHY IN EDINBURGH.

For some time past there have been rumours of Homœopathy having found its way into the University Clinical Wards of the Royal Infirmary of Edinburgh. We are happy to understand that the Medical Faculty of the University, and the Managers of the Infirmary, have taken effectual steps to check this mischievous folly.

BOOKS RECEIVED.

(*Continued from page* 543 *of the June Number.*)

49. Dysmenorrhœa and other Uterine Affections, in connection with Derangement of the Assimilating Functions. By Edward Rigby, M.D., &c., &c. 12mo. pp. 543. London: 1844. *Vide* p. 595 of last Number.

50. The Nature and Treatment of Deafness and Diseases of the Ear; and the treatment of the Deaf and Dumb. By William Dufton, M.R.C.S., 8vo, pp. 118. London: 1844.

51. On the White or Opaque Serum of the Blood. By Andrew Buchanan, M.D., Professor of the Institutes of Medicine in the University of Glasgow. 8vo, pp. 10. (From Transactions of Glasgow Philosophical Society.) Glasgow: March 1844. Abridged in the Periscope of last number.

52. On the Fibrine contained in the Animal Fluids, the mode in which it coagulates, and the transformations which it undergoes. By Andrew Buchanan, M.D., Professor of the Institutes of Medicine in the University of Glasgow. 8vo, pp. 11.—(*From Transactions of Glasgow Phil. Society.*) Glasgow, 1843.

53. Note on the State in which Fibrine exists in the Blood. By Andrew Anderson, M.D., &c. 8vo, pp. 8.—(*From Transactions of Glasgow Phil. Society.*) Glasgow: January 1844. Abridged in the Periscope of last number.

54. Mental Hygiéne: or an examination of the intellect and passions, designed to illustrate their influence on health, and the duration of life. By William Sweetser, M.D., late Professor of the Theory and Practice of Medicine, &c. (*Reprinted from the American edition.*) Royal 8vo, pp. 60. Edinburgh: 1844.

(*The rest of the Books received are omitted for want of room.*)

ERRATA IN THE LAST PAPER BY DRS LAWRIE AND KING; IN A NOTE FROM THE AUTHORS.

"In our last Contribution on Injuries of the Head, it is stated, at page 473, that the mortality in cases of Hernia Cerebri has been "more than one in five." This statement is not quite accurate. Altogether (although not discovered when the table was drawn up) there appear to have been fifteen cases of hernia cerebri in the Glasgow Infirmary, twelve of which died, and three recovered; the proportion being exactly four deaths to one recovery. We omitted to state, that the period during which the patients survived after the operation of trephine, did not seem to influence the occurrence of hernial protrusion, the proportion which occurred within the first few days after the operation, being, as nearly as possible, the same as took place at a later period.—At page 473, for *young*, read *youth*."

Glasgow, 1st June 1844.

TO CORRESPONDENTS.

Original Articles by the following gentlemen will appear in the remaining numbers of the volume for this year:—Professor Syme, Professor Simpson, Professor Wm. Gregory, Dr Lawrie, Dr Nicol, Dr Marshall Hall, Dr Wm. Munro, Dr Morris, Dr King, Dr Keith, Dr Adams, and Dr Cormack.

Mr Turner's Strictures on Dr Montgomery's paper on the "Dark Abdominal Line" are in types.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

Article I.—*Strictures on Dr Montgomery's Observations on the Dark Abdominal Line. By* R. Turner, M.D., *Member of the Royal College of Surgeons of England.*

A communication "*On the Dark Abdominal Line,*" *&c.* from Professor Montgomery, in the *Dublin Journal of Medical Science* for May last, contains certain passages on which I feel called upon to offer a few observations.

I begin with that part of Dr Montgomery's letter which relates more particularly to myself. He remarks,—"In Mr Turner's paper, which was published in August 1842, (in the *London and Edinburgh Monthly Journal of Medical Science,*) he distinctly claims priority to all others in formally noticing this peculiar mark as among the signs of delivery; to which claim I am quite ready to believe that he conscientiously thought himself entitled; but I must add, that the claim was incautiously made, because he might, with very little trouble, have satisfied himself, by a reference to my work on the *Signs of Pregnancy and Delivery*, to which he has referred in the course of his paper, that I had distinctly noticed the matter five years before."

With what justice Dr Montgomery has accused me of having "distinctly claimed priority to all others in formally noticing this peculiar mark as among the signs of delivery," the following extract from the paper to which he refers, will enable the reader to judge.

"When examining, in the month of October last, a young woman, accused, and since convicted, of concealing delivery, a well-defined *dark stripe, in the mesial line of the abdomen*, attracted my notice. The circumstance brought to my recollection a report of a medico-legal examination in a case of recent delivery, from Lecieux's *Considérations Médico-Légales sur l'Infanticide*, quoted in Beck's *Ele-*

ments, (p. 312,) in which casual mention is made of a similar appearance, in these terms:—'a brownish line was also visible, running from the pubis to the umbilicus.'" (LONDON AND EDINBURGH MONTHLY JOURNAL, vol. ii. pp. 675–6.) And in my subsequent observations in the Journal (for February 1843, p. 99), I again refer to the passage in the report from Lecieux, as the source of my first information regarding the *Dark Line*.[1] I have, therefore, on every available occasion, "distinctly" *dis*-"claimed priority to all others," in so far as the bare mention of the appearance having been met with after delivery is concerned,—and Dr Montgomery "might, with very little trouble, have satisfied himself" of the fact; and thus avoided the somewhat ludicrous position of causelessly being the accuser of another, of want of caution, and, in so doing, exhibiting an instance of that failing in himself.

But Dr Montgomery is "quite ready to believe" that, albeit an "incautious," I am a "conscientious" claimant; and I am far from undervaluing, although I have been able to show that I do not need, this display of charitable feeling. I may in the sequel have an opportunity of requiting it, in circumstances really allowing the exercise of the virtue.

In explanation of the circumstance of my not having mentioned Dr Montgomery's allusions to *the line*, although I refer to his treatise on the signs of pregnancy and delivery in the course of my paper, I have to state that I owe my acquaintance with his opinions to reviews of his treatise in various periodicals, and to works embracing the whole subject of Medical Jurisprudence,—not having had the advantage of perusing the book itself. It will be perceived that the only quotation from it in my paper, is stated to have been made, at second-hand, from Beck's *Elements*. The edition of this last work I possess, and the only one I have seen, is that published in 1838; and when I add that neither here, nor in any other author I consulted, does any the slightest allusion to Dr Montgomery's notices of the dark line occur; and also, that, by his own showing, his name has not been mentioned, in connection with this sign, in any earlier, or any other publication than the edition of Beck of 1842; I trust I have said enough, at once to free myself from the charge of intentional or inexcusable omission,—and to prove that Dr Montgomery's allusions to the dark abdominal line,—which, as he has been careful to point out, have been before the profession since 1837,—were, in effect, "obscure," and of little or no practical value. To cull these passages from his work, adding such a commentary as that which accompanies them in the *Dublin Journal*, —*after* the labours of others, (with which Dr Montgomery admits his acquaintance,) have obtained for the appearance in question something like due attention in the medical world, is, I would submit, to give his notices of the line a prominence they did not before possess. In fact, their uniform tendency, in what may be termed their chrysalis state, indisputably is, to discourage all further inquiry in the matter. I subjoin the portion of Dr Montgomery's paper in the *Dublin Journal*, in which these allusions are reproduced, taking the liberty to distinguish by capitals, the words which support my proposition.

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[1] "The mention of the line by Lecieux," says Dr Cormack, "appears to be accidental, as it occurs only in the detail of one case, and is not adverted to in the general statement of his opinions, as to the respective value of the signs of recent delivery." *On the Dark Abdominal Line, &c.* London: J. Churchill, 1844. Vide also p. 117 of THE MONTHLY JOURNAL for February 1844.

"At page 296 of my work above referred to, after describing the broken streaks, pearl-coloured lines, and other marks found on the abdomen after delivery, I have said: '*These marks are* SOMETIMES *accompanied by a brown line, extending from the pubis to the umbilicus, which will be noticed more particularly presently.*' At page 304, after again noticing these broken lines on the surface of the abdomen, it is added: 'IN SOME CASES *there is, also, to be seen extending between these two points, a brown line of about a quarter of an inch in breadth, especially in women of dark hair and strongly coloured skin.*' And again at page 307, this mark is a third time mentioned in these words."

(Here follows a truism, into which Dr Montgomery has been betrayed, apparently by his desire to be emphatic:—)

"'*The brown line* SOMETIMES FOUND *extending from the pubis to the umbilicus* IS ONLY OF OCCASIONAL OCCURRENCE.'"

Of a truth the said line requires greater attention than his treatise on the signs of pregnancy and delivery bears evidence of his having bestowed upon it, before its signification can be determined, or its value to the physician and medical jurist at all appreciated; for the above quotations from this work make it clear that the sign has been there languishing, for years, under a process analogous to that of

"Damning with faint praise."

But it is gratifying to perceive that the dark line has risen very considerably in this author's estimation since the publication of his work. How the change of sentiment has been brought about I will not, at present, stop to inquire, but it would almost appear to have taken place while the article in the *Dublin Journal* was being penned,—at least, the gradual manner in which Dr Montgomery's altered views are there announced, admits of easier explanation on this than on any other supposition. In one part of his reclamation, Dr Montgomery states, as his opinion at the time of writing, that the dark abdominal line is "*an occasional, but not constant sign observable in puerperal women.*" A slight departure this, it must be allowed, from his original ground; but, farther on, he speaks of the sign as "*generally, but not always present in puerperal women, and women advanced in pregnancy.*"

Let us now inquire whether Dr Montgomery's own pretensions, with reference to the *Dark Line*, be well founded, or otherwise. They are put forward in these terms: "With regard to my claim to priority in the description of this peculiar appearance, all I will venture to say is, that, as far as my reading and research have enabled me to ascertain, it was not enumerated among the signs of delivery by any author, previous to the publication of my notice of it in my work in June 1837. No mention of it, as among the signs of delivery, is to be found in Beck's *Medical Jurisprudence*, up to that date; nor did it appear in that very comprehensive work until the edition of 1842, when, after describing the lineæ albicantes, it is noticed for the first time in these words:—'Along with these Dr Montgomery (pp. 304, 307,) has *sometimes* noticed a brown line, about a quarter of an inch in breadth, extending from the umbilicus to the pubis, especially in women of dark hair, and strongly coloured skin.[1]' Which quotation, occurring in a work so universally known and read as Beck's is, could hardly have been expected to escape the attention of any one writing expressly on this subject in the two subsequent years."

The reader has already seen that, contrary to Dr Montgomery's assertion, the dark line *has been* enumerated among the signs of delivery, in an earlier edition of Beck's *Elements* than that of 1842. It will, moreover, be perceived, on referring to the list given at the end, of authors cited in the body of that work, that the edition of Lecieux's *Considérations*, from which the case containing the description of this abdominal line is quoted by Dr Beck, is of so old a date as 1819. Dr Cormack, in the reprint of his *Clinical Report on the Dark Line*, has added, in a note, the original passage from Lecieux, quoting from an edition bearing the date of 1810. The examination of the girl Nanette Tillard, detailed in the passage referred to, took place on the 12th of November 1809. Now, granting that the Professors of the Faculty of Medicine, &c. who conducted the examination, observed the sign on that occasion for the first time, the fact is rendered evident that all the information regarding this appearance to be found in Dr Montgomery's work—with the exception of a single observation, the accuracy of which we may afterwards see reason to question,—was known or given to the world twenty-eight or twenty-seven years before he wrote. It cannot, then, be always certainly predicated of others, besides the object of Dr Montgomery's animadversion,—"writing expressly on this subject," too,—what may or may not "escape their attention," even "in a work so universally known and read as Beck's."

I have next to bring upon the arena a rival to Professor Montgomery, in whose presence even the doctors of the Luxembourg must hide their diminished heads; for the new comer is not only equal to setting aside this author's claim to priority in regard to the dark abdominal line—if it had not been already demolished—but will seriously damage his pretensions to the discovery of the *umbilical areola.* This formidable gladiator is Dr Anthony Frederic Hohl, Professor Extraordinary at the University of Halle, to a review of whose writings on "Obstetric Exploration," in the *British and Foreign Medical Review* for January 1836, my attention has been directed by a professional friend, since the publication of my former papers on the dark abdominal line. The portions of the following extract from the work of Dr Hohl, which I have marked in italics, appear to cry "habet" of Dr Montgomery as a discoverer in abdominal regions. Dr Hohl's publication, as stated in the Review, appeared in 1833–34.

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[1] "See Sixth Edition, 1842, p. 171, Note." (The Sixth Edition was published in 1838. R. T.)

"A woman is mostly pregnant with a male fœtus, when her colour remains quite natural; except, perhaps, where it is somewhat changed by small brown spots upon the forehead, and about the mouth; when *the linea alba* either *divides the abdomen by a narrow, brownish, yellow line, into two halves,* or where this appearance is entirely wanting, and *the umbilicus retains its usual colour.* On the other hand, she is pregnant with a female fœtus, where the colour of the face is either generally altered; where she has the look of a patient suffering under disease of the liver; where spots are observable upon the forehead, like freckles extending across the bridge of the nose, and forming a circle round the mouth, or merely bound the edge of the upper lip; or when these spots appear distinctly at only one, or only some of the above-mentioned points. *The linea alba is here of a bright brown or yellowish colour, and appears much broader than in the other case; the navel, and its immediate vicinity, are also generally more coloured than where she is pregnant with a male fœtus,*" &c. (*British and Foreign Medical Review*, No. i. p. 102.) Dr Montgomery's description (*Dublin Journal of Medicine* for May 1844), of this supposed new sign of delivery, is given below, in order that the reader may have an opportunity of comparing it with the foregoing.[1]

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[1] "I beg to observe, that I have in a few instances observed accompanying the dark abdominal line, another appearance of a similar kind, not hitherto described by any one, as far as I am aware. It consists in a dark coloured circle, or areola, surrounding the umbilicus, extending in breadth about a quarter of an inch all round that part, and in general, but not always, varying in depth of tint according to the colour of the hair, eyes, and skin of the woman. Unlike the mammary areola, there is no turgescence or elevation of it above the surface of the surrounding skin, neither are there any prominent follicles upon its disk. One specimen of this I saw within the last few days, in a lady with very dark hair and eyes, who had just given birth to a child, which there was every reason to believe had been dead nearly a month. The abdominal line was faintly marked, as was also the circle around the umbilicus, and the mammary areola looked faded. The first time I observed this appearance was in 1840, and it was its extreme depth of colour which arrested my attention, while in the act of adjusting a binder on the patient. It is of much less frequent occurence than the dark abdominal line, but I have never as yet seen it except in the puerperal woman. Whether it is ever produced under circumstances unconnected with pregnancy, remains, as far as I know, to be determined by more extended observation." *Montgomery in Medical Journal* for May 1844.

Having been enabled before to prove my own withers unwrung in regard to the claim of absolute priority, and now to establish the existence of the *raw* on the shoulders of my accuser, I would desire to handle it as tenderly as he has shown a disposition to do, when under the impression that the case between us was reversed. I have, therefore, in my turn, to express myself " quite ready to believe" that Dr Montgomery " conscientiously thought himself entitled" to claim priority in noticing both the appearances aforesaid; and I need not " add, that the claim has been incautiously made."

It now only remains to notice the series of inferences with which Dr Montgomery winds up his communication, and which he thus introduces :—

" The following are the conclusions in reference to this dark line, to which my observations have led me."

Now, leaving out of the question the 8th of these conclusions, which relates entirely to the *umbilical areola*, the same, (or others contradictory of them,) and many more of equal importance, were previously announced by writers in the London and Edinburgh Monthly Journal, to whose communications on the subject, Dr Montgomery tells us, his attention was specially called, by an intelligent pupil, a few days before his paper was written. Surely, in these circumstances, the fact of his having been anticipated to such an extent—to use his own expression—" could hardly have been expected to escape his attention;" and, if Dr Montgomery made the discovery, it was as little to have been expected that he should withhold a free acknowledgment of it. It is true, that, at the commencement of his letter, he slightly refers to Dr Cormack's *Clinical Report on the Dark Line*, characterizing it as " a very useful paper," and intimating that its purpose is to show that this appearance " often depends on other causes than recent delivery;" but how far from commensurate with the importance of the paper alluded to. the above notice of it is, the readers of the London and Edinburgh Monthly Journal will be at no loss to perceive; and the obvious tendency of Dr Montgomery's silence as regards the observations of others, is to lead all, whose reading on the subject is confined to the pages of the *Dublin Journal*, to believe that no more copious or accurate information regarding the dark line has been submitted to the profession, than that comprised in his conclusions, and that the merit of originality in stating them belongs almost exclusively to him.

In examining these conclusions separately—for the purpose chiefly of testing the accuracy of the general assertion respecting them which I have hazarded above—I will, to aid perspicuity, place them and my remarks on each, in opposite columns :—

Dr Montgomery.	Remarks.
"1. It is generally, but not always present in puerperal women, and women advanced in pregnancy."	In my two memoirs in this Journal, thirty-seven inspections after delivery made by myself, and others, (the number not stated,) as reported to me by various correspondents, are mentioned. Dr Cormack, in his *Clinical Report*, has recorded thirty-one inspections in the same circumstances, made in his hospital and private practice, and in Professor Simpson's lying-in hospital. In all, the instances in which the line was not detected, amount to seven, and in at least five of these it is by no means certain that the appearance was absent. It is not, then, too much to affirm that the dark line is not only "generally" to be met with, but, in the words of Dr Cormack, "is almost invariably present."
"2. It is occasionally visible at early periods of gestation. I saw it faintly, but quite perceptibly, marked in a lady with very dark hair and eyes, who had just miscarried in the second month."	Dr Cormack (*Clinical Report*) details six cases of abortion and premature delivery, in which the dark line was visible.
"3. Consequently, when it is visible, it is no proof of the woman having been delivered at an advanced period of gestation, or of a visable child, as supposed by Mr Turner."	"From the diversity of causes," says Dr Cormack, "which give rise to this appearance, its presence can be of no use whatever as a medico-legal test of delivery; although its absence, in suspected cases, might, in connection with other circumstances, strengthen the belief that the woman had not been recently delivered." I freely admit that, since the publication of my papers on this subject, my views on the point under consideration, as on certain other practical applications of the dark line, have been considerably modified; partly in consequence of Dr Cormack's investigations, with the testimony of others brought forward by him, and partly by the result of my own observation. But I would, with deference, submit, that it may be doubted whether sufficient cause has yet been shown for setting aside this test of viability. Dr Cormack states, as a general conclusion, that, "during menstruation and pregnancy, after abortions and miscarriages," it is "generally less distinct than after a nine months' gestation;" in the case mentioned in Dr Montgomery's second inference, it was seen but "faintly,"—and as regards the circumstances "unconnected with pregnancy, delivery, or any affection of the uterine system," in which, as Dr Cormack has shown, the appearance is to be seen, it may be remarked that, in a large majority of the cases suspected, delivery, in which a medico-legal inspection is ordered, the question between the existence of these other

conditions, and the occurrence of delivery, does not arise. But whatever weight these considerations may be entitled to, and whether or not succeeding observations shall establish a distinction between the abdominal line, accompanying other conditions than delivery and advanced gestation, and in these states,—rendering it useful as an element in the diagnosis of the latter, and, therefore, a test of the viability of the child,—I would respectfully solicit attention to the fact, that I was careful to guard against being understood to consider my first inferences conclusive.

My conclusion as to the negative value of the *dark line* as a sign of delivery has been admitted by Dr Cormack but in part; and it cannot be disputed that a single clearly-ascertained instance of the absence of the line, in these circumstances, must weaken its claim as an absolute sign. But, weighed in the same balance, which of the other diagnostic marks of delivery will not be found wanting—which of them will be found exempt from fallacy?

"4. It is occasionally observable in states altogether unconnected with gestation. In one case, I saw it distinctly marked in a girl about ten years of age, who was affected with mesenteric disease; and in another instance I found it well developed in a lady labouring under ovarian tumour, and enlarged liver."

Dr Cormack has given a tabular view of seven cases in support of his proposition, that "the dark abdominal line may be seen in females quite unconnected with pregnancy, delivery, or any affection of the uterine system."[1]

"5. Its depth of colour is, in general, proportioned to the darkness of the hair, eyes, and skin; but to this there are many exceptions."

Dr Montgomery's statement in the second extract from his treatise, given in his paper in the *Dublin Journal*, to the effect that the line is to be seen "*especially in women of dark hair and strongly coloured skin,*" may be pronounced incorrect on abundant evidence, which clearly shows that the appearance is to be met with "in women of dark hair and strongly coloured skin," NOT *more frequently*, but generally of *a deeper hue* than in others. This fact, with the additional observation that the colour of the eye influences that depth of tint of the line was first stated by me in this Journal, (vol. ii. p. 677, and vol. iii. pp. 97–99 *passim*) was corroborated by Dr Cormack in his *Clinical Report;* and the *recent* conclusion of Dr Montgomery is in conformity with it.

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[1] Of the 16 cases (tables II. and III. of Dr Cormack's Report,) in which *the line* was seen, 12 were also those of patients affected with the lately prevailing epidemic fever. A line of a pale yellow colour has occasionally been found in *yellow fever*, extending from *the nose to the pubis*. See *Library of Medicine*, edited by Dr Tweedie, vol. i. p. 263.

"6. It is, in general, more strongly coloured, and more distinctly defined, a day or two after delivery than before, or during labour."	In one case examined by Dr Cormack, the line was found of a darker hue on the 10th than on the 2d day after delivery. In another, it was more perceptible on the 2d; but seen of a yellow colour on the 5th; and dark and well-defined on the 11th and 15th days after delivery. In another, it could with difficulty be detected during labour, but was distinct some days after. I may here add, that my first observations (*Journal*, vol. ii. p. 677) showed an increase in depth of hue "immediately after the discharge of the liquor amnii when abundant, or when it is scanty, after the expulsion of the fœtus;" and succeeding experience has convinced me that this is a very constant occurrence.
"7. Its shade and depth of colour are apt to vary at different times in the same case, without any obvious or intelligible cause."	The same tendency in the line has been already stated to have been observed by Dr Cormack in some of his cases. In others, in which abdominal congestion was well-pronounced, the increase and decline of that state was marked by corresponding changes in the line, in a most interesting manner. The *turgor vitalis* of menstruation, in the case by Mr Rankine of Carluke, related by Dr Cormack, was indicated by *the line* with striking regularity.

If the reader have not yet had the irritability of his organ of wonder exhausted by undue exertion in contemplating the "silent system" of Dr Montgomery, I would, as a concluding specimen, request his attention to the circumstance that in no part of his reclamation does that author make the slightest allusion to Dr Cormack's discovery, that the dark abdominal line may in some states be seen in the male! Without the knowledge of this fact, could the value of any of Dr Montgomery's general conclusions be duly appreciated?

Although the foregoing remarks have extended to a much greater length than I anticipated, I am unwilling to omit the present opportunity of stating briefly the result of my latest observations of the *Dark Line*:—

It has occurred to me to observe it once, immediately after abortion in the third month, faintly marked; but, except in this solitary instance, I have not yet—although I have frequently looked for it—met with the appearance at an earlier stage of utero-gestation than the seventh month.

I have found it, but scarcely perceptible, in the third and fourth months after delivery; in healthy subjects, I am satisfied, it disappears in the course of the second month, in a vast majority of cases. In a woman under treatment for hepatic congestion, the line *per-*

sisted, faintly but distinctly, for at least six months after delivery. The opportunity afforded me of inspecting it, about the end of that time, I owe to the kindness of Dr Christie of this place, in whose practice the case occurred.

I have also, in a few instances, found the dark line unconnected with pregnancy, delivery, or uterine affection, and in males. In two girls, both about the age of seven, the one affected with chronic hepatitis, and the other with considerable gastric disorder, accompanied by ascarides, the line was faintly, but quite perceptibly marked. In a man aged 73, from whom I removed, by the lateral operation, eight calculi of the phosphatic kind, this appearance was discovered a few days before the operation, and probably had existed for some time previously, the patient having been confined to bed for years. The line was still perceptible at the time of his return home in January last; and although he has now no complaint, I very recently found, on examination, the line still remaining. It was then extremely faint, as it has always been in this case since I first perceived it. In a boy aged 5, labouring under sthenic bronchitis, the line seemed to accompany intestinal irritation, with profuse bilious stools, (apparently the effect of calomel which was freely administered,) vanishing when this subsided. Here also the appearance was very faint, and completely disappeared in two days after it was first observed. In a patient at present under my care, with chronic vomiting, the line has been slightly visible for the last three or four weeks. At first I could perceive it *only* between the ensiform cartilage and umbilicus; but afterwards, it became very perceptible from this last point to the pubis. It may, although present, have escaped notice, at my former inspections. It has never been of a deep colour. This patient was the subject of a similar attack to that he at present suffers from, about twelve months ago. If the line existed at that time, I did not discover it. In a considerable majority of the cases in which I have lately as formerly met with the sign in advanced gestation, during labour, or after delivery, it has extended from near the ensiform cartilage to the pubis,—a circumstance I here mention, as, with the exception of Dr Cormack, every other observer of it, so far as I am aware, has reported it as extending only from the umbilicus to the pubis.

Dr G. O. Heming, writing on the *Signs of Pregnancy*, in *The Lancet* of June 22, gives the particulars of four examinations made by him at different periods of gestation, in which he met with *the dark line*, extending between these two points. Dr Heming prefaces his detail of cases as follows:—

"I am not aware that it has been noticed by any writer on the subject of pregnancy; but I have often seen a dark line, extending from the pubis to the umbilicus."

Half-a-dozen lines farther on, he states, by way of withdrawing his conjectural claim, that he has seen in *The Lancet* for May 25, p.

285, an abstract of the letter of Professor Montgomery which has given rise to the present communication.

KEITH, July 1844.

ARTICLE II.—*On Preserving Bodies for Dissection.* *By* JOHN INGLIS NICOL, M.D., *Inverness.*

I read with much interest, in the *Lancet* for the 29th of June last, Mr Derhust's communication on the subject of Mr Brookes' method of preserving bodies for dissection, by means of a saturated solution of the nitrate of potash, as it brought before me vivid recollections of a variety of incidents connected with its use.

The colour of the muscles and other textures was preserved while unexposed, for a considerable length of time. In cold weather it answered the purpose admirably; but in the hot season, however, when the parts were once exposed, they speedily lost colour and assumed the usual aspect of decomposition; and this was not all,—under night the subject became infested with maggots, the clearing away of which in the morning was an occupation of the most revolting character, which made the atmosphere of the room peculiarly offensive.[1] To obviate these annoyances, Mr Brookes adopted the use of the bi-chloride of mercury with happy effect. I recollect well its first introduction about thirty-five years ago into the Practical-Room of my excellent preceptor and valued friend Mr Carpue, where it was highly prized by the pupils. This process, however, had also its defects. The textures were undoubtedly preserved; but they speedily lost colour, and although the invasions of the maggots were prevented, and the atmosphere rendered more pure, the solution being used unnecessarily strong, the edge of the scalpel became speedily blunted, and the whetstone and strop were never out of the dissector's hand.

For a great many years I have in my occasional pathological examinations used a combination of the nitrate and bi-chloride, with the most satisfactory results. I use from 5 to 10 grains of the bi-chloride dissolved in a pint of water, and to this solution I add as much nitrate as it will dissolve. While the nitrate preserves the colour, the quantity of the bi-chloride is sufficient to prevent the incursions of the maggots, and the process of decomposition is thus effectually retarded for such a length of time as completely to answer every requisite purpose. Where this combination then has not been tried, I have no hesitation in recommending it as equal, if not superior, to any of those in present use.

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[1] The remarkable rapidity with which these larvæ are produced is well known. I have often seen the cavities of the thorax and abdomen literally filled with them in the morning, although the operations of the previous day rendered scarcely one of them visible at night.

In the preservation of timber and other perishable substances, the antisceptic property of corrosive sublimate under Kyem's patent, has now for a good many years been abundantly tested, and the subject of much notoriety: it has only failed where it has not sufficiently penetrated the substances subjected to its influence. In all my trials of its efficacy, nothing could be more satisfactory. To the naturalist I hold it to be invaluable; for if the skin of any animal is dipped into a solution of the above mentioned strength, and thereafter dried, neither moth nor maggot will ever make any impression on it, nor will the colour of either hair or feathers be in the slightest degree injured or altered.

INVERNESS, July 4, 1844.

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ARTICLE III.—*Case of Disease of the Bones and Joints of the Lower Extremity;—Spontaneous Dislocation of the Hip Joint;—Amputation;—Discharge of Calculi from the Bladder;—Recovery.* By WILLIAM MONRO, M.D., *Surgeon to the Dundee Infirmary.*

Jan. 2, 1841. George Nicol, aged 6, fell when engaged in play, upon his left knee. He did not complain much of the part for two days, when swelling appeared on its anterior surface, extending down the limb,—confining him to bed, with inability to move. The swelling then increased, attended by great constitutional disturbance, and heat and redness, extending as far as the ankle, but being most considerable over the upper third of the anterior aspect of the tibia. Leeches and aperients were ordered, and repeated for a few days. An incision was then made about two inches below the head of the tibia, which gave exit to a considerable quantity of unhealthy purulent matter. The bone was bare. For several days the patient improved; but subsequently, the inflammation attacked the knee-joint, with suppuration and ulceration of the cartilages; great thickening of the integuments, extending half way up the femur, thickening of the femur itself, followed by openings on each side of the knee-joint, which discharged unhealthy pus, and through which the bone could be felt bare. At this time, the tibia became exposed throughout its whole length, without any attempt at reproduction.

About the 1st of February, he complained of pain in the right hip, which for some days was attributed to pressure from lying upon it. On the 4th, however, after more careful examination, it was found to be much swollen, red, and painful directly over, and for some extent around the head of the femur. Warm poultices and fomentations were applied; and in a few days fluctuation was detected. On the 13th a small opening was made in the most prominent part, by which was discharged about three ounces of unhealthy curdy pus. The wound continued to discharge for a considerable time, but the swelling and pain greatly diminished.

March 2. On consultation with Dr Gibson, the head of the femur was found completely luxated, and drawn upwards and backwards on the dorsum of the ilium; the discharge was now moderate, and the swelling nearly gone. Pressure over the joint was made by means of strips of adhesive plaster, a compress and bandage; and in the course of three weeks the sinus healed. Ultimately the swelling and pain entirely disappeared, and nothing remained except the complete dislocation.

It may be scarcely necessary to remark, that during this long and severe illness, the boy's general health had suffered greatly. He became extremely emaciated, had a quick pulse, night sweats, occasional diarrhœa, loss of appetite, and all the usual symptoms of hectic fever. Care was taken to regulate the bowels by diet and medicine. The body was frequently sponged with vinegar and water, with great comfort and advantage. His diet has been chiefly farinaceous, with, occasionally, light soups; but wine and malt liquors have never been found to agree with him. Quinine, also, was several times tried, but without advantage; small doses of Dover's powder, with hydr. cum cretâ, and rhubarb, were frequently administered, with the best possible result.

June 1. The fever has considerably abated; the appetite is improved; the bowels less relaxed; the skin softer; the tongue moist, but reddish at the tip and edges. The right hip is free from pain and swelling; its motions are greatly impaired, but the joint is not anchylosed; the left knee is discharging unhealthy matter from several openings in both its inner and outer sides; there is also an opening about three inches above the joint on the inside of the high, through all of which diseased bone can be easily detected by he probe. Several openings over the tibia continue to discharge a hin unhealthy matter, and that bone can be detected quite deuded of its periosteum throughout nearly its whole extent.

Having at this time consulted with Dr Gibson and Mr Kirkland, t was agreed that the left limb should be removed at the upper hird of the thigh. This I accordingly did on the 7th, when I had he assistance of my friends above named. In consequence of the ontraction of the knee-joint, the flexion of the leg, and the imposbility of extending it, I was obliged to take the flaps from the anerior and posterior surfaces of the thigh. They answered extremely ell, forming an excellent cushion over the end of the bone. There as nothing remarkable in the operation. Three vessels required gatures; very little blood was lost. He stood the operation well. he wound was cleaned, and the edges immediately brought tother, and retained by four stitches, strips of adhesive plaster, and ndages.

On examining the amputated limb, we found the whole tibia to nsist of a soft brownish dirty-looking gelatinous substance, having a thin covering of dead bony matter, resembling, in consistence and thickness, the shell of an egg, with some lamellæ of bone passing through the gelatinous matter, the whole so soft that a probe could be easily pushed through it in any direction; indeed, had it not been for the soundness of the fibula, the limb could not have preserved its straight form; about three inches below the knee, an oblique fracture of the bone, if it could be called so, had taken place; this, however, I am satisfied, was only the result of the moving of the limb during the progress of the disease, and not the effect of the primary accident; there was, however, very little displacement. The heads of the tibia, fibula, the lower extremity of the femur, and the patella were so soft and spongy, that a knife could be easily thrust through them; for about two inches above the condyles, the femur had the same soft sponginess; above this, for some way, the periosteum was much thickened, and the cellular tissue infiltrated with lymph, which had assumed a firm fibrous appearance; the muscular tissue was pale and much wasted. The cartilages were ulcerated, and the joint communicated freely in all directions with the sinuses which existed around it. The epiphyses of the femur and tibia were loose, and almost separated from the shafts of these bones.

For two days the patient went on well. On the 10th June he complained of difficulty of voiding his urine, for which he had an anodyne, castor oil, and warm fomentations, with relief. On the 11th, however, he had complete retention, and on examination I found a calculus in the urethra, about four inches from its extremity, completely obstructing the passage; by gentle pressure it was brought near to the extremity, and then scooped out. On the 13th the stump was dressed. Union by the first intention had taken place throughout the greater part of the wound. In the situation of the ligatures there was a considerable discharge of healthy pus. On the 15th (when one of the ligatures came away,) the wound was looking well, and the boy's health improving. On the 17th another ligature came away, and every thing was advancing favourably; he had some appetite for food, slept well at night, and appeared quite cheerful. His back, which had been much excoriated by being kept moist from the constant discharge of urine for several days, was much better, with superficial ulceration, looking healthy. He voided urine freely, and without pain. His bowels were regular. On the 18th, he had sickness and vomiting of bilious looking-matter; was feverish, and without appetite. He was ordered to take at night, three grains of calomel, with two of Dover's powder.

June 19. He was much better. His bowels were three times moved. The tongue was clean, and rather reddish. The stump looked well. The discharge was much less. About this time, he was raised frequently to the sitting posture, which he had not been for several months before, when an immense number of small calculi were discharged each time he voided his urine. I obtained about three dozen of them, varying from 1 to 3 grains each. I sent a number of them to my friend Mr Goodsir of Edinburgh, to have them analysed for me; and, in the mean time, under the impression that they consisted chiefly of lithic acid, I put the patient under the liquor potassæ—prescribing a dose three times a-day.

June 22. The remaining ligature on the femoral artery came away. He still passed numerous calculi from the urethra. His general health was improved.

July 8. He has had some slight feverish attacks since last report; and has passed several rather large stones with difficulty and pain. The stump is quite whole.

July 25. He had complete retention of urine, from a calculus sticking in the urethra, about an inch from the extremity. It was removed by the scooped extremity of a director, with immediate relief.

Sept. 1. He has been occasionally distressed from the passing of large sized calculi, some weighing six grains. The magnesia solution was substituted for the aqua potassæ.

Sept. 22. He was very ill all night from a large calculus becoming impacted about the membranous portion of the urethra. After considerable difficulty I succeeded in breaking it into pieces, by means of Weis's instrument, after which it passed readily. For some time past his general health has not been so good. His bowels were occasionally relaxed, with loss of appetite, which I suspect o have been in a great degree owing to indulgence in fruit and inigestible food. He has had frequently small doses of Dover's owder, rhubarb, and hydr. c. cretâ.

Oct. 1. The patient having long been accustomed to void his rine in the recumbent position, and finding that he still continues his practice, I have insisted upon his always being raised erect, nd even bent forward when emptying the bladder. The general ealth is improving, and he is gaining flesh. The stump is very ound and firm, having a good soft cushion over the end of bone. he right hip is entirely free from pain or swelling, the head of the emur can be very distinctly felt lying on the dorsum of the ilium, hich, however, admits of considerable motion.

Dec. 1. Since last report my patient continued gradually to ain health and strength, the calculi diminishing both in size and umber, and he has now passed none for several weeks, he has no omplaint whatever, excepting the inability of using his right leg, hich is stiff and weak.

From the above date, up to the present time, he has continued ee from any disease, his urinary organs are completely sound, he as gained his former health and strength, and he is able to walk ith the assistance of crutches.

11th July 1844. Since the above was written, the boy has connued in the enjoyment of excellent health, and is now able to use e crutches with great freedom, going and returning from school ery day without any other aid.

On the 21st February last, I was favoured with an analysis of the calculi by Dr Wilson of Edinburgh, to whom, and Mr Goodsir, I beg to express my obligation; the analysis is so interesting, and the composition of the stones so unusual, that I think it proper to give Dr Wilson's account of them in his own words.

ANALYSIS OF THE CALCULI.

BY DR G. WILSON.

" The calculous matter sent me for examination was found on analysis to contain the following substances:—

Carbonate of lime,
Carbonate of magnesia,
Phosphate of lime,
Muriate of ammonia, and
Animal matter.

" The substances are arranged in the order of their abundance, carbonate of lime being the chief ingredient; but as the quantity of matter I had to operate on was small, I could not ascertain with exactness the relative proportions of each.

" The presence of animal matter is indicated by a transient charring and blackening before the blow-pipe, accompanied with the evolution of a peculiar and characteristic animal odour.

" When the calculous matter is digested in distilled water, and the liquid filtered, muriate of ammonia is easily detected in the solution; caustic potass evolves ammonia from the calculi, but the quantity is very small.

" The calculi dissolve entirely, and with lively effervescence in warm nitric or muriatic acid. Acetic acid dissolves only the carbonates, leaving untouched the phosphate which can be identified in the usual way. Oxalate of ammonia, employed with the usual precautions, precipitated the lime, leaving the magnesia in solution.

" Lithic acid was carefully sought for, but none could be detected.

" Calculi containing the carbonate of lime and magnesia are mentioned by Dr Kane as occasionally occurring. Dr Prout has seen some rare cases, where carb. of lime was the chief ingredient; Dr Yellowly has found this carbonate present in a great number of phosphatic calculi; Prout, Faraday, and Brande had done so likewise. The muriate of ammonia, though not generally included amongst the ingredients of calculi, has been shown by Brande and Yellowly, to be almost invariably present, but in small quantity.

" GEORGE WILSON."

ARTICLE IV.—*Clinical Contributions to Pathology, Therapeutics, and Forensic Medicine. By* JOHN ROSE CORMACK, M.D.Edin., F.R.S.E., *Physician to the Royal Infirmary of Edinburgh, and Lecturer on Forensic Medicine.*

NO. II.—OBSERVATIONS ON GONORRHŒA AND SYPHILIS, WITH REFERENCE TO FORENSIC MEDICINE AND THERAPEUTICS.

The medical practitioner is sometimes called upon, in circumstances of peculiar delicacy and responsibility, to pronounce opinions as to the venereal or non-venereal nature of various affections of the genito-urinary organs, as well as of other parts of the body, such as the anus, throat, and skin. Rash and erroneous answers are often given to such questions, both in courts of justice, and in private practice, not so much from their difficulty, as from the slight attention which they receive from the student of disease.

The object of the following remarks is not to give minutely and formally the diagnostic signs and treatment of those numerous affections which may be *suspected* to be of venereal origin. It is proposed to speak only of some of those classes of cases, regarding the origin or appropriate management of which we are apt to be craved earnestly for prompt judgment. The subject will be considered under the following heads:—

I. GONORRHŒA.

1. Purulent discharges from the genitals of female children.
2. Do. do. from the genitals of female adults.
3. Do. do. from the urethra of young boys.
4. Do. do. from the urethra of men.

II. SYPHILIS.

1. Condylomatous Excrescences.
2. Syphilitic skin diseases.
3. Congenital Syphilis.
4. Prophylaxis of Syphilis.

PART I.—GONORRHŒA.

1. *Purulent Discharges from the Genitals of Female Children.*

Discharges of a muco-purulent or catarrhal nature take place rom the genital organs of persons of both sexes, and of all ages, ndependent of those of a similar appearance, whose origin can be raced with probability to sexual intercourse. It is in children that hey are most often met with, and it is in them also that we can nost frequently establish with certainty their non-venereal origin.

They are more common in girls than in boys, which must depend hiefly upon the greater extent of the mucous membrane of the female genital organs, and the less perfect manner in which nature has defended it from the irritating influence of external agents, such as foreign bodies, cold, and wet.

Cases of the nature at present referred to, are more frequent in hospital and dispensary, than in private practice; which is just what might be expected, in our climate, to result from the unrestrained and exposed manner in which the female children of the lower orders are allowed, in every state of the weather, to paddle and sprawl about in the filth and mud of the streets and street-drains.

The illustrations are very numerous which might be adduced of cold and damp producing these discharges; and the brief detail of two unexceptionable cases will be more satisfactory and useful than any general statements.

CASE 1.[1] *Urethritis, vaginitis, &c., from exposure to cold and damp.*—A. B., a girl aged seven years, the child of respectable parents, after exposure to cold and damp, became affected with catarrh, and at the same time began to complain of a scalding pain during micturition. In two or three days afterwards, a thick, whitish, purulent fluid, was observed oozing in considerable quantity from between the labia. When I saw the patient, the discharge was of a greenish colour; there was considerable tumefaction, and great vascularity of the external parts of generation. Very careful inquiries were made as to whether the child could in any way have come in contact with gonorrhœal matter, or whether there was any possibility of her having had intercourse with the other sex; but it clearly appeared, that she could not have been contaminated by these means. Owing to the acuteness of the inflammation, it was judged proper to apply leeches to the inside of the labia, which had a good effect; and she was ultimately completely cured with the sulphate of copper lotion, and great attention to cleanliness.

CASE 2. *Urethritis and vaginitis from exposure to cold and damp.*—E. D., a girl two years old, was secluded in Bridewell, along with her mother, for about six weeks before she was taken ill. There was at first a good deal of *ardor urinæ;* and when I saw her, the matter of the discharge was thick, and of a greenish-yellow tinge. From the state of separation in which the culprits in that institution are kept, it is quite impossible that she could have come in contact with males, or with any person afflicted with gonorrhœa, for the women among whom she was were examined, and found to be free from vaginal and other discharges.

In the first of these cases, there seems good reason to conclude, that the exposure to cold and damp was the cause both of the catarrh, and of the genital discharge, since they appeared simultaneously, and could not be traced, after the most minute investigation, to any other source. The other patient had also a slight cough, and as she was very insufficiently protected from the cold and damp weather, which then prevailed, we may explain the appearance of the running in her case, in the same way that we did in the other.

The next case which I cite illustrates another source of this disease, viz., infection with the matter of ophthalmia.

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[1] This and the following case occurred in 1835, in the public practice of Dr Simson, of Hope Street, who kindly took me to see them, knowing that I was interested in the subject which they illustrate.

Case 3. *Vaginitis in a girl of two years and a half, apparently caused by infection with the matter of ophthalmia.*—Elizabeth J., a scrofulous child, aged two and a half, from Cumberland Street, was admitted 27th March 1844. She has a very copious muco-purulent discharge from the inner surface of the vulva and vagina, also a purulent discharge from both eyes, and an ulcer on the left cornea. There are scabs and pediculi on the head.

It appears that this child has been under treatment by one of the medical officers of the Eye Dispensary, for the eye affection, which has been improving somewhat. The vaginal discharge has not been treated. A servant girl of very filthy habits, with whom she slept, was affected with a purulent discharge from the eyes, at the time the disease showed itself in the child, *i. e.* about six weeks before admission.—*To use a collyrium of sulphate of alum: and a lotion of sulphate of zinc for the genitals.*

March 28. *R. nitr. argent. gr.iss, aquæ fontis ℥i. Fiant collyrium p. oc. sinist.*

March 29. *R. iodureti sulphur. ℈i, axungiæ ℥i. Fiant unguentum. Signetur. To be applied to the head once in 24 hours.*

April 1. She is much better in all respects. The nitrate of silver is to be given up: the ulcer of the cornea has cicatrized, without leaving any speck.

April 3. The discharge from the eyes has almost ceased; the vaginal discharge is less copious, and has lost its greenish hue; the head is free from scabs and pediculi.—*Intr. ung. iodureti sulph.*—*Cont. alia.*

April 9. She is now well in every respect, except that there is a slight vaginal discharge remaining.—*R. sulph. cupri gr. xxiv, aquæ fontis lb.j. lotio, pro injectione in vaginam.*

April 16. There is now no vaginal discharge, nor has there been for two days; the eyes continue well. Dismissed cured.

After some months, exposure to cold caused a temporary return of the discharge from the genitals.

These purulent discharges frequently occur in scrofulous children from very slight causes; and sometimes also in others of a less irritable temperament, when suffering from teething, intestinal worms, and after certain articles of food or medicine. This has been stated by men of the best authority, such as Astley Cooper, Hamilton, and Underwood; and is familiar to all who have had experience in the diseases of children. Girls of from one to four or five years old, (especially such as are tainted with scrofula,) are often troubled with pain and itching in the genitals, proceeding commonly from intestinal irritation in connection with teething. Such cases if neglected would often terminate in troublesome discharges. Careful and repeated ablution, a soothing liniment, along with the internal administration of hydrarg. c. cretâ, and rhubarb, or such other nedicines as the state of the bowels may indicate, I have found to be very suitable and effectual treatment.

Sir Astley Cooper, although he cautioned his students in the most nergetic language against committing mistakes in this matter, decribed the non-venereal affection in words which correctly characerise a common clap. "When a child," says he, "has this disharge, there is a heat of the parts, slight inflammation, and this ometimes increases and goes on to ulceration."[1] Dr Underwood tates, that "when the discharge is much discoloured and fœtid, it gives ise to a suspicion which young practitioners cannot be too guarded against. There are, indeed, instances of little girls, not more than six years old, being injured, and it is therefore of consequence to make a judicious discrimination; but there are, on the other hand, instances of a very suspicious appearance, as late as the age of thirteen or fourteen, where no injury could be received without the consent of the party, who is generally perfectly innocent, and where, therefore, the least suspicion would be distressing to her, and might make a whole family miserable." And Dr Underwood adds in a note,—"I have known the discharge to be so ill-coloured and fœtid, and attended not only with great pain, and inflammation, and excoriation in different parts, but with such tumours, and other appearances resembling violence offered about the furca, and in other instances, with an abscess in the labia, that had the patient herself advanced any charge, I fear I should not have hesitated to have joined in with it; and yet from the event, as well as from the whole history of several cases, it has been very evident that no kind of injury had been received, nor any thing like intercourse taken place."[1]

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[1] Lectures on Surgery. 12mo. London, 1832. P. 502.

The frequency being so considerable, of non-venereal discharges closely simulating in appearance those caused by sexual intercourse, it becomes a matter of extreme importance for the practitioner to have his mind made up as to the best means to be adopted for forming a positive or probable differential diagnosis; and in particular, to be ready to say, whether any physical signs exist by which the two can be distinguished.

Beck, although he mentions several cases in which the fate of the accused in a great measure depended upon the opinion of the medical witnesses as to the venereal or non-venereal character of the discharge, does not give any test by which the difference can be established. Ryan—whose statements on various subjects are often rash—insinuates, that those who cannot distinguish the discharges which are, from those which are not the produce of impure coition, are ignorant practitioners; and he tells medical witnesses to distinguish between purulent discharge, the consequence of violence and inflammation, and that arising from infection. He does not, however, give a single rule to guide the practitioner in forming his diagnosis; but immediately adds:—"The history of the case will enable him to form a correct opinion in the majority of instances; and he ought to ascertain whether the child has been subject to this discharge previous to the offence." No one will deny that it is an imperative duty minutely to sift the history of the case; but then is it not just to throw light on the history of a case that a medico-judicial opinion is required? In a case of alleged rape on a female child, for example, we are called on to make an examination, that we may give an opinion, so far as the circumstances warrant, with reference only to what we have seen; and probably the chief value of our evidence will be to correct and test the statements of other parties, who are supposed to be influenced by motives of hostility or compassion for the accused. The following remarks of Mr Carmichael, if generally correct, are certainly not to be relied on as containing a safe and absolute rule of diagnosis, as is clearly shown by several of the cases detailed in this paper.—"The very circumstance of discharge from the urethra affords one of the strongest diagnostic symptoms by which we are enabled to distinguish gonorrhœa from leucorrhœa, or other discharges to which the female parts of generation are subject. The other diagnostic signs are those of inflammation, *ardor urinæ*, and a greenish colour imparted to the linen of the patient by the gonorrhœal discharge; circumstances not attendant upon the complaints with which it is most liable to be confounded." P. 101. Mr Taylor's opinion on this point as stated in the following sentences, is worthy of being quoted:—"If the child be labouring under syphilis or gonorrhœa, this is positive evidence of impure intercourse, either with the ravisher, or some other person; but we should be well assured, before giving an opinion, that the discharge is of a gonorrhœal, and not simply of a common inflammatory character. The party accused might be at the time free from the disease; or if labouring under it, then we should expect that the discharge suddenly made its appearance in the child with the usual severe symptoms, at a certain interval of time after the presumed intercourse, *i. e.* about the third, fourth, or fifth day. When these conditions do not exist, *it is extremely difficult to form a medical opinion on the subject, since there are no means of distinguishing those sporadic discharges from those which are gonorrhœal. Under these circumstances, proof must be derived from non-medical sources.*"[1]

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[1] UNDERWOOD.—Diseases of Children. 8vo. London, 1819. Vol. ii. p. 123.

2. *Purulent Discharges from the Genitals of Female Adults.*

It is well known that various causes besides impure coitus give rise to catarrhal affections of the vagina, and discharges simulating gonorrhœa; but yet it may be asked, are the majority of practitioners sufficiently guarded in giving their opinions in cases of this description, when the veracity of the patient is doubted?

The effect of exposure to cold upon the mucous membrane of the female genital organs was several times strikingly brought under my notice, when attending the Lock Hospital of Edinburgh, nine years ago; and upon referring to my notes of the practice of that institution, I find the following very apposite illustration.

CASE 4. *Return of vaginal discharge from exposure to cold.*—Mary Grant, a woman of florid complexion, between 20 and 25 years of age, after being completely cured of a gonorrhœa, was transferred from the Lock Hospital to the Magdalen Asylum. Though the discharge was completely stopped, the parts remained slightly more vascular than natural,—a state in which they often continue for some weeks after the cessation of the running. For three weeks after admission into the Asylum, she was free from the complaint. At the end of this period, after being much exposed to cold in washing, she was again acutely seized, and in consequence sent back to the hospital. When examined upon her return, she was found to be affected with the same symptoms which characterize a recent and severe gonorrhœa. I do not think it possible that she could have got any fresh venereal contamination, because the matron of the Lock accompanied her to the Asylum, so that the possibility of her being enticed back, even for a moment, to her old haunts of vice, might be prevented; and it need hardly be stated that, when once within the walls of the Magdalen Asylum, all chance of illicit intercourse was at an end.

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[1] TAYLOR.—Medical Jurisprudence, p. 577. London, 1844.

CASE 5. *Acute vaginitis from exposure to cold.*—Some weeks ago, a married lady, the mother of several children, convalescent from a severe illness, being fatigued and perspiring from walking beyond her strength, sat down to rest on a damp bank. Next morning she was unable to leave her bed, from feverishness, sore throat, and general pains, which were especially severe in the back and knee-joints. Along with these symptoms, she had a feeling of fulness and discomfort in the vulva and vagina: and two days afterwards, when I saw her, she complained of swelling of the labia, profuse discharge, and scalding of the parts, when her urine came in contact with them. The treatment consisted of low diet, antimonials, and fomentations, for three or four days. After the acute symptoms subsided, a lotion of the sulphate of zinc, (gr. vi. ad ℥i.) was used. The cure, so far as the discharge is concerned, is not yet quite complete, but very nearly so.

The imprudence mentioned at the commencement of this statement is quite sufficient to account for all the symptoms detailed.

CASE 6. *Vaginitis, &c., with symptoms simulating those of abortion, in a virgin.*—Miss ——— an hysterical dyspeptic young lady, aged 20, suspected of masturbation, was placed under my charge some time ago. Among her other complaints, she had a swollen, inflamed, and irritable state of the labia, vagina, and os uteri, along with a considerable discharge. The freedom of access to, and wideness of the vagina was remarkable for a virgin, and the patency of the os uteri was still more surprizing, as the finger could easily be passed into the orifice. With the advice of Professor Simpson, leeches were applied to the uterus, and other local treatment adopted in addition to the use of general tonics. The case was a very obstinate and complicated one, and was considered a very particular one, not only by myself, but also by Drs Abercrombie and Simpson, with whom I had several consultations. The patient at last recovered from all her ailments; and is now married, and a mother.

The last case is of very high importance to the medical jurist in other points of view, from that in which the subject of the present communication leads us to view it. The state of the vagina and os uteri were very similar to what is found after abortion; and yet no such event had taken place in this patient. One such case—however small may be the class to which it belongs—shows the extreme caution and deliberation with which every sign and symptom requires to be weighed before giving a judicial opinion, founded upon an examination of the female genital organs. This patient was, I am persuaded, a virgin; and yet how many physical indications were there to throw doubt upon this opinion.

Violence in the first sexual connection sometimes originates a troublesome vaginal discharge, differing only in its cause, from that occasioned by impure coitus. By the statement of this undeniable fact, the practitioner has often saved his patient much mental distress, and been the means of preserving domestic peace.

3. *Purulent Discharges from the Urethra of Young Boys.*

Mr Moss, a surgeon of Windsor, has mentioned several cases similar to those of female children already detailed; and along with these, he notices an instance in which a purulent discharge of non-venereal origin proceeded from the urethra of a boy. As the affection was observed in several members of the same family, it is probable that they were all of an irritable constitution.

CASE 7. *Purulent discharge from the urethra of a boy six years old.*—"I was requested," says Mr Moss, "to see a little girl three years of age, residing in Eton, whom I found suffering under every symptom of gonorrhœa. She had swollen and inflamed labia, a thick purulent discharge from the vagina, and acute pain in passing the urine. On making inquiry, I ascertained that the eldest sister, who was eleven years old, had in the preceding June been affected in the same manner, and that the second sister, (eight years old) had also a few weeks afterwards been precisely in the same state; the mother had neglected to obtain advice for them, as she fancied that the symptoms arose only from weakness, and the discharge had continued on them in a slight degree up to that time. Two days after this visit I was desired to look at the grandmother, a woman aged sixty-six years, living in the same house, who was afflicted with one of the most frightful attacks of purulent ophthalmia that I ever beheld. About three days afterwards the brother of the girls (aged six years) was affected with swelling and inflammation of the prepuce and glans penis, accompanied by a profuse discharge and pain in passing his urine, which symptoms continued to be very severe for some days. I had seen several cases of inflamed prepuce in children from what I conceived want of cleanliness, and I had seen five cases of gonorrhœa in little girls from the same cause; at least, I could trace the disease to no other, but I had never seen cases of so decidedly marked and infectious a nature as the present." And Mr Moss adds, "there is no reason to believe that these children had been infected from any venereal source; but it is probable that gonorrhœa may be generated in the genitals of the human female without any intercourse of the sexes, and I believe without the communication of any specific virus."[1]

I have not met in practice with any cases of boys similarly affected to that described by Mr Moss, but have heard of several who have come under the notice of my friends. In several strumous teething children, however, I recollect to have seen the prepuce swollen, and the urethra painful.

4. *Purulent Discharges from the Urethra of Men.*

It is not to be supposed that purulent discharges simulating gonorrhœa are to be met with only in women and children. It would not be difficult to show, that many cases of urethritis of considerable acuteness arise in adult males, independent of sexual intercourse; and also, that those which do follow this are often beyond all question, not the product of any specific poison, but originate either in physical injury during coitus, or in this along with the application of some accidental acrid discharge.

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[1] Lancet, Dec. 10, 1835, p. 443.

CASE 8. *Urethral discharge from connection with a menstruous woman.*—Not very long ago, a non-medical gentleman who has had repeated claps, consulted me; he expressed great surprise at having got the disease again, as he was perfectly convinced that the only person with whom he had had connection for nine or ten months previously, was uncontaminated; and it was ascertained quite satisfactorily, that she had neither any discharge from, nor even the slightest abrasion or vascularity of the vagina and neighbouring parts. Upon inquiry, it was discovered, that she was menstruating at the time when my patient contracted the disease.

There can be no doubt, from facts such as this, and others which have been mentioned to me by various medical friends, that intercourse with menstruous women, especially in hot climates, and with those of uncleanly habits, or in whom the discharge is acrid, may cause an affection in the male which the most discriminating and experienced cannot distinguish from what would be contracted from the common clap of the strumpet, or others. It was probably to prevent such occurrences that the purification of the Jewish women was enjoined by the Mosaic law.[1]

Benjamin Bell, in his treatise on the venereal disease, has a very valuable though short chapter upon non-venereal gonorrhœa, or what he terms "*gonorrhœa simplex.*" He mentions an instance in which a gentleman got a severe clap from his wife when she was affected with fluor-albus. This individual had repeated returns of the discharge after having connection with his wife, at times when she had this flux, and he was also afflicted in a similar way after exposure to cold and wet. Mr Bell states that ditchers are very liable to urethral discharges, simulating those deemed venereal, and which cannot, by mere inspection, be distinguished from them. One of his patients, who was annually engaged in wild duck shooting, had always on these occasions a discharge of matter from the urethra, after his feet and legs had been immersed in water for several days.

CONCLUSIONS.

The following are the most important practical conclusions to be deduced from the preceding cases and remarks.

1. That a variety of causes, constitutional and local, may, (either singly, or in conjunction with one another,) give rise to discharges which cannot be distinguished from those occasioned by impure coitus, to which the name of gonorrhœa is commonly applied.

2. That these affections ought to be treated as inflammatory catarrhal affections of the genito-urinary mucous membrane; but that when they depend upon the scrofulous taint, the diet, regimen, and medicinal substances, known to prove constitutionally beneficial in such circumstances, should be chiefly relied on, along with mild local astringents.

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[1] Leviticus xv. 24.

PART II.—SYPHILIS.

1. *Condylomatous Excrescences.*

The variety of names and diversity of appearance belonging to certain excrescences which arise upon and around the genitals, are very great. They have been compared to pears, cauliflower, the cock's comb, raspberries, mulberries, currants, figs, and wild figs. Though these morbid growths are met with most frequently by far in females, yet they also occur in males. Their predilection for the one sex rather than the other is not owing to difference in temperament, but is determined simply by their preference for mucous surfaces, and such adjoining parts as are moistened by the secretions from them; and as these situations are much more extensively furnished by women than by men, so are the former more liable to this disease than the latter.

I believe that the various appearances, the names of which have just been given, may with correctness be included under the one general term of CONDYLOMA; though I am aware that some pathologists regard each, or at least several of them, as the offspring of specific poisons, capable of reproducing themselves, and themselves only. This opinion, however, is not supported by evidence; and careful examination has convinced the latest and most attentive observers who have written on the subject, that the difference of appearance entirely depends on accidental circumstances, such as the locality of the growth, the pressure to which it has been subjected during its rise, and the habits of the person on whom it has appeared—especially as to ablution of the parts.

If we admit that the morbid growths described by authors under the various names of *condylomata*, *tumeurs muqueuses*, *poiraux*, *choux-fleurs*, *crêtes de coq*, *framboises*, *mûres*, *groseilles*, *fics*, *marisques*,[1] *&c.*, are similar in their nature and origin, it necessarily follows, or rather it is implied, that *Condyloma is identical with Sibbens*, a doctrine which, if not formerly fully proved to be correct, has lately been most satisfactorily established by Mr Wills and Dr Skae.[3] The same opinion had been previously expressed by foreign writers, and more recently in the MONTHLY JOURNAL by Mr Wills, an accomplished practitioner in Ayrshire, a district in which Sibbens has been said to be indigenous. "Between Sibbens," he says, "and the Venereal Condyloma, there does not appear to be any difference; and I will be much astonished indeed, if, on farther inquiry, the latter is not found to be often communicated by the mouth. Whether sibbens may have wandered from our mountains to the cities, or venereal condyloma from towns to us, it is not for me to decide."

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[1] The French sometimes give the name of *marisques* (wild figs) to condylomata; but it is more usually applied by them to a species of hæmorrhoidal tumours, which are formed, not by the simple dilatation of veins, but by the inosculation of the capillaries, thus presenting some points of resemblance to erectile tissue.

[2] WILLS.—*Vide* MONTHLY JOURNAL for April 1844, pp. 282-289.

[3] SKAE.—*Northern Journal of Medicine*, April 1844. A very full abstract of this paper will be found at p. 615 of the MONTHLY JOURNAL for June 1844.

The most important questions which the practitioner may be asked regarding this disease are the following:—

a. What are its characters?
b. What are its nature and origin?
c. How is it communicable? and,
d. How ought it to be treated?

a. What are its characters?—The disease termed condyloma or sibbens may be thus succinctly defined:—Moist, tough excrescences, generally rounded, but of various forms, situated in women most commonly upon the labia, perineum, upper part of the thighs, around the anus, and sometimes, but very rarely, upon the inner surface of the vagina, as high up as the cervix uteri, and still more rarely in the axillæ[1]—in men, upon the perineum,—and, in both sexes, generally[2] attended with white elevated patches, (sometimes superficially ulcerated) on the throat, or interior of the buccal cavity. Along with these symptoms, there can usually, at some stage of the disease, be seen an eruption of small elevated scaly patches, which ultimately become red, brown, leaden, or copper-coloured spots, giving the surface a mottled appearance.

The following cases, though only partially illustrative of the above definition, will form a suitable introduction to some of the remaining topics of discussion regarding condyloma.

Case 9. Margaret M., of a fair complexion, aged 17, a modest-looking young woman, was lately presented to me by her mother and aunt, both decent-looking women, with a request that I would, for the satisfaction of the girl's mistress, grant a certificate that an eruption on the head, neck, upper part of the chest, and shoulders was not of venereal origin, as had been alleged. I at once stated, that I could not do so; and as the general health of the girl was impaired, I suggested the propriety of her entering the hospital as my patient, which she did. Before admission, and during her residence in the Infirmary, the patient uniformly persisted in stating that she never had had connection with the other sex.

The following is a summary of her case as it was reported in the journal of my hospital daily visits:—

10*th May* 1844, (*day of admission.*)—There is an eruption on the neck and shoulders, consisting of elevated spots of various sizes. They are of a dull reddish hue, and not copper-coloured; most of them are partially covered with loose scales; the reddish hue is fresher in two of the spots from which the scales have been apparently rubbed off by the recent friction of the clothes. Along with these spots are a few others, presenting totally different characters, viz.:—an absence of scales, and nothing visible but a thick, hard, horny, and generally flattened crust, covering a surface varying from the size of a split pea, to that of a bean: the crusts are most prominent in their centres, and from one of them being conical, which is situated on the back part of the shoulder, above the dress, where it could neither be pressed on, nor interfered with, it is probable that those on other parts would have had the same prominence had they been so circumstanced. The skin at the base of these horny excrescences is of a dull red hue. The head is covered with an eruption, in consequence of the exudation from which, the roots of the hair are matted together, so as to prevent the obtaining of a satisfactory view of the scalp, which, however, it may be stated, is studded with crusts and numerous small bald patches. The patient stated that she had no eruption except what has just been described; but upon proceeding to make an examination of the genital organs, the red elevated scaly spots were found to be abundant on the whole of the inside of both thighs. The genital organs, and parts in their neighbourhood are in a state of extreme filth. There is considerable hypertrophy and hardness of the labia majora, and some condylomatous excrescences on the upper part of the inside of the thighs, on the opposing surfaces of the posterior part of the fissure, and around the anus. Neither abrasions, ulcerations, nor cicatrices can be detected externally. Some white discharge was seen exuding from the vagina when the labia were separated, and upon the introduction of the speculum, this was found to be so abundant as to necessitate ablution before the examination could be proceeded with. There is no hymen, and the entrance to the vagina is fringed with the carunculæ myrtiformes usually seen in those in whom this membrane has been broken down. A speculum of moderate size was introduced without pain; but when the blades were being separated, so as to permit the plug to be withdrawn, she suffered considerably, which seemed to depend on the inflamed or extremely vascular state of the vaginal mucous membrane. The cervix and os uteri are intensely congested. The throat is relaxed and vascular, but is free from ulcerations and the white spots which simulate them. There is no mercurial fœtor; and the gums seem healthy.

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[1] Skae, *op. cit.*—"In two instances, three or four considerable condylomatous patches, white and elevated, though flat, were seen extending over the inner surface of the vagina, as high as the cervix uteri." * * * "In only one instance did there exist a distinct condyloma in parts of the body other than those enumerated. This occurred in the case of a patient who presented a very large condylomatous patch in the left axilla."

[2] Dr Skae says *always*.

She is ordered to perform thorough ablution of the pudenda, with cold water, four times in the twenty-four hours. After each of these washings, she is directed o apply to the vagina and external parts, by means of a rag, a sulphate of copper otion, containing two grains to each ounce. She is to have a hot bath every econd night, at bed time. The head is to be shaved, and washed twice a-day with black soap and tepid water.

May 15. She has had no medicines internally since admission, except one lose of castor oil. The skin disease on the upper part of the body seems to be ather better, and the skin itself is certainly softer. From the report of herself, nd of the nurse, the state of the genitals is greatly improved.

May 21. Since the 16th she has suffered from a severe febrile attack. On he 18th it was at its height, the pulse being 120, and yesterday it was again atural, being down to 70. During the continuance of these symptoms, she ad antimonial diaphoretics, and mild laxatives, in addition to the treatment rdered on admission. Since the 15th she has not had a bath, as it could not e got up to the ward (No. 15), and as the way to the bath-room is through any cold draughts and long passages. The affection of the genitals is much nproved. The eruption generally presents nearly the same characters as on dmission.

She is ordered to take half an ounce of the following mixture every third hour. -R. mur. hydrarg. corros. gr. i, solut. mur. morphiæ ʒi, aquæ fontis ℥vi.— isce, et solve.

May 23. The genital parts were examined to-day, and found to be consi- erably improved since they were last inspected; the condylomatous excres- ences have still, however, considerable bulk.

She is to use a wash composed of nitric acid and water, the strength being one rachm of the acid to six ounces of water.—The sulphate of copper lotion is to discontinued.

May 29. There is very great improvement in the skin disease; many of e spots have disappeared entirely, leaving behind them only dark brown loured stains; others in a less advanced state of cure are more vivid, and pre- nt a dull glistening aspect, dependent upon desquamation and the exudation and drying of a very minute quantity of thin limpid secretion. These remarks apply to the eruption seen upon the neck, shoulders, thighs, and upper part of the chest and back. The cure of that on the head is rapidly progressing, and apparently in the same way as that above described; but the hair, which is beginning to grow, partially obscures the view. Small bald patches of the size of a pea, and larger, are scattered over the head.

The condylomata have very greatly diminished, both in prominence and superficial extent. They have entirely disappeared from around the anus, and have also very nearly left the inside of the thighs, so that now they are only to be seen conspicuously at the posterior part of the genital fissure. According to the statement of the patient, there is no vaginal discharge; but a minute quantity of milk-like secretion issued from the vagina during the examination. From the impossibility of getting a bath into the ward, she has had none since she began to take the corrosive sublimate. This medicine she has had with tolerable regularity, as prescribed on the 21st; and the nitric acid lotion, (which occasions considerable smarting,) she has used as ordered on the 23d May.

June 8. The skin does not now present any of the eruption formerly described, but in its place copper-coloured stains, some of which are faint. The scalp is in a healthy state, excepting the bald patches, and one or two minute points, from which there is an exudation slightly matting together the hair. All that remain of the condylomatous growths are three or four very small soft tubercles between the fourchette and anus. Of late, there has been a great improvement in the general appearance of the patient, who has now acquired a healthy look, as well as plumpness of face and limb.

The treatment is to be continued; and directions are given to pay more attention to the ablution of the head with black soap and water.

June 14. The seat of the eruption now only exhibits a few slight copper-like stains. The condylomata have disappeared; around the roots of one or two of the hairs, a few points of pus are seen, which is to be attributed to the excess of scrubbing which was employed some days ago. The cure may be said to be complete, both as regards her general health, and the local affections. The corrosive sublimate did not cause salivation, nor any other unpleasant effect. She is therefore dismissed, with instructions to pay special attention to her ablutions, and to show herself in a fortnight.

Aug. 15. The patient has not returned.

Case 10. About the middle of June 1844, I was requested, under particular circumstances, to examine a young woman at that time employed as a domestic servant. She had no affection of the skin, throat, or mouth. The vagina was narrow, and in no degree relaxed. No examination was made with the speculum. There was no vaginal discharge to be seen, but the lubrication of the parts seemed rather more abundant than natural. As very careful ablution had been performed, and clean linens put on in anticipation of my inspection, nothing can be said with certainty regarding the amount and nature of the secretion from the parts. Upon the opposing surfaces of the labia were several white elevated excrescences, or condylomata, of the size of a small split bean. At the upper part of the thighs, in the perineum, and around the anus, were a number of smaller tubercles of the same kind. A few of these excrescences seemed to be flattened by the pressure to which opposing surfaces subjected them, and, partly from the same cause I imagine, some of them had undergone slight superficial ulceration. The patient was much alarmed about herself, in consequence of some statements which had been made to her by a female *confidante*, on which account I was enabled, with little difficulty, to get a more truth-like history of the case than could have been anticipated in the circumstances. The patient said that, till within six months ago she had never had sexual intercourse; that during that period she had had connection with two different individuals, but never more frequently than once in six or eight days; and that at other times, in the interval, she had fits of venereal excitement as strong as during copulation. The latter part of this disclosure, from the manner and language in which it was communicated, I consider to have been an explicit admission of her being habitually given to masturbation. I only saw this patient twice, as she was removed from Edinburgh. In four days, however, a very notable improvement had taken place. The treatment consisted in frequent ablutions, the applying to the genitals, four times daily, a lotion of the chlorinated solution of soda (ʒi ad ℥vi.), and the internal use of corrosive sublimate, in doses of the 1-12th of a grain, six times in the twenty-four hours, each dose being dissolved in two ounces of water, uncombined with any other substance.

Case 11. A young man came to me some months ago, to ask advice regarding a painful, elevated, and superficially ulcerated patch, situated on the under surface of the tongue, midway between its frœnum and apex. The tonsils were swollen, and on the pharynx there was a white somewhat elevated patch, which at the first glance was mistaken for an ulcer. In the perineum and around the anus, were several condylomatous excrescences, of the size and form of compressed peas. He had a hoarse and husky voice, which he said was not natural to him. This person admitted that he had led a very irregular life, and had run many chances of getting venereal disease; but stated, that with the exception of a gonorrhœa long since cured, he never had any affection which he could attribute to impure connection. This patient was treated locally with the diluted acid nitrate of mercury, and at first constitutionally with small doses of the hydriodate of potash. The sore on the tongue rather increased in size under this plan. He then had his mouth touched (but hardly to what could be called salivation) by calomel, administered according to the plan recommended by Dr Law, and which I have found to answer very well in several patients affected with various diseases. Two grains of calomel and three grains of opium, were made into twenty-four pills with conserve of roses. One was ordered to be taken every hour; and the prescription was pretty well followed, for in twenty-six hours the whole number of pills was taken. It was about the 30th hour from his taking the first that I saw him, when there was a distinct though slight mercurial fœtor with tenderness of the gums, and increased salivary secretion. After this, the sore on the tongue healed rapidly. It ought to be stated, however, that during this period the place was touched several times, at intervals of some days, with a solution of lunar caustic. The condylomatous growths in the perineum proved so obstinate, that to expedite the cure, I touched them once with strong nitric acid: the effect of this was excellent.

These three cases will, I think, be admitted to be of the same class, and held as constituting examples of the same disease, modiied by circumstances. To illustrate every varied combination of ymptoms, and every special peculiarity which condylomatous disease presents, would require many pages.[1]

b. What are its nature and origin?—Condylomata are seldom met with, except in persons who greatly neglect personal cleanliness; and this has naturally led many to the conclusion that they riginate in filth. "I was at one time," remarks Dr Skae, strongly inclined to believe with Dr Hibbert, that this disease was 'the engendered product of rank uncleanliness;' for it is certainly most frequently met with in patients of the lowest class, and s generally accompanied with profuse and neglected discharges. But the number of cases in which I have seen it, where there was o such discharge, has satisfied me that this is not the sole cause, lthough it may be admitted that under its influence, the disease is ostered and developed. My opinion on this point exactly coincides with that of Dr Wallace. 'The want of habits of cleanliness,' he observes, 'has a great influence in determining the formation of fungi, of rhagades, and perhaps of onyxis. In fact, these symptoms are often produced by the dirty habits of patients, when the opposite habits would have prevented them. I do not, however, say that they never occur except in such habits, for I have known very cleanly persons to have the condylomatous form of disease.'"[1]

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[1] Those who wish to obtain a good and succinct account of the subject, are referred the papers of Mr Wills and Dr Skae already mentioned; and those who desire still ore extended information may, in addition, consult the various authors cited by them.

It has occurred to me that some recent observations by an Italian physician, point out the real source of condylomatous disease, and partly explain the nature of the relationship between it and "rank uncleanliness."

Dr Rignoli of Pisa believes that soft wart-like vegetations are caused by masturbation. He thinks that he has observed in women addicted to this disgusting habit, that the finger used, becomes covered with these growths. In some of these persons, warts will likewise be found on the vulva, similar in character to those which are developed in the same situation in cows which have been recently covered.[2] Burdach, who noticed the same facts, attributes the phenomenon to the action of the plastic juices secreted during venereal excitement.

Is it not likely, then, that condylomatous disease originates in those who neglect to remove by ablution the fluids ejected during the venereal excitement of masturbation or sexual congress?

Whether condylomatous disease originates in this way or not, it is undoubtedly a distinct primary affection. The matter of condyloma, when inoculated, never produces a chancre, as does that taken from a true syphilitic sore: and condyloma is not followed by the same secondary affections as true syphilis. Both are essentially distinct in their primary and secondary manifestations.

c. *How is it communicable?*—That it is communicable by sexual intercourse, does not admit of doubt; and the experiments of Drs Wallace and Skae show that, in a few cases, it may be propagated by inoculation. Inoculation took effect only in four of Dr Skae's thirty-six cases; in 221 inoculations by M. Ricord, no effects were produced. That there was a reproduction of the specific disease in the experiments of Drs Wallace and Skae cannot be doubted, from the descriptions which they give: moreover, the secondary effects were developed on the skin and in the throat, as well as the primary local disease.

Case 12. *Transmission of condyloma in coitu.*—[The following case is related by M. Baumès, who erroneously believes that this form of disease is transmissible, but not inoculable.] "A workman had contracted condylomatous disease, *(pustule muqueuse)* upon the scrotum, from a prostitute; this he communicated *in coitu* to the labia majora of his wife. On the first day that the wife perceived any thing wrong with her, M. Baumès was consulted, when he examined both her and the husband. The latter went into the hospital of

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[1] Skae, op. cit.

[2] Rignoli.—New York Journal of Medicine for May 1844. I have not been able to get the original paper, which appeared in an Italian journal.

Antiquaille. At this time the condylomatous growths were suppurating; and in the same state, the patient said, as when he had had connection with his wife. The thigh was inoculated with the pus in several places without any result following. In twenty-three days from the commencement of the disease, (the primary affection being almost cured,) ulcers appeared on the tonsils, and a papular (?) cutaneous eruption on the back, belly, and forehead. The wife had no constitutional symptoms. Both were successfully treated,—the one in hospital, the other at home,—locally with lotions of a strong solution of the chloride of soda, cerate of calomel, and constitutionally, with baths of corrosive sublimate."[1]

d. How ought it to be treated?—The cases already detailed, show how useful the bi-chloride of mercury is in the treatment of this disease. If given in small and often repeated doses, dissolved in a large quantity of water, the complete remedial effect of the medicine is obtained, without any unpleasant effects being produced, as I can testify from my experience of it in many cases of various diseases. By doses of the $\frac{1}{12}$ of a grain repeated every three hours, I have seen cured very obstinate skin diseases of various kinds. I strongly recommend those who may use corrosive sublimate as a medicine, to prescribe it in the way I have mentioned. I have often given it in larger doses with good effect; but I have not seen increased therapeutic action, though frequent disagreeable consequences, from exceeding the small doses which I have recommended. All irritant poisons, when given as medicines, should invariably be administered very largely diluted. This is much better than giving them after meals, as some physicians recommend. Corrosive sublimate baths are admitted even by those who use them, to be hazardous and uncertain, especially from the varying quantity of saline ingredients generally mingled in them.

The warm bath is an admirable remedy in most skin diseases, and one never to be neglected, if possible, in the treatment of the various forms of condyloma; but let unmedicated hot water be used for it, and let the dangerous drug be administered *internally*, in well considered and carefully apportioned doses; or let it be applied by *fomentation*, the same precaution being used.

Besides corrosive sublimate, there are several valuable thera-eutic agents which may be given internally in the treatment of ondyloma. As the chief of these, I would mention hydriodate of otash. In protracted cases, assistance may be derived from the oduret of iron, the tartrate of antimony and potash, &c.

I generally prescribe three grains of the hydriodate of potash to be aken in twenty-four hours, in four or six doses, each being dissolved n several ounces of water with or without infusion of gentian. In giving the ioduret of iron, I have hitherto only made trial of the syrup of he Edinburgh College. When the skin remains harsh and hard, I uspend other internal remedies, and give for a few days, four or six oses daily of the 20th of a grain of tartar emetic, in a draught of ater. A larger quantity might excite nausea, and interfere with e feeding of the patient, which is generally far from desirable.

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[1] Baumes.—Tome 1$^{\text{ier}}$, p. 11.

In addition to the general constitutional treatment, local applications are signally useful, though I do not think they are by any means indispensable in mild cases, if cleanliness be duly enforced. Nitric acid and chlorinated soda lotions of various strength, creasote in the form of ointment, (gtt.x–xx ad ℥j), pitch ointment, and the acid tar liquid are the best I know of.

2. *Syphilitic skin diseases.*

The cutaneous eruptions which follow syphilitic contamination, though extremely various in appearance, possess some characters in common, which, if not always sufficient to distinguish them, at least materially serve, with other circumstances, to do so.[1] Generally speaking syphilitic eruptions are secondary, *i.e.*, following the cure of the primary affection; but sometimes they appear almost simultaneously with, or very soon after it. They occur at every period of existence, from fœtal life up to old age.

Syphilitic skin diseases are scaly, papular, pustular, tubercular, exanthematous, and vesicular. They are generally of a copper colour, or dingy red, and never assume the bright hue of active inflammation. The face, forehead, upper part of the back, and shoulders are the parts upon which they most commonly appear; but they are also not very unfrequently to be met with on other situations, and there is no locality in which they have not been seen. The scaly[2] syphilitic skin diseases usually occur uncomplicated; whereas the other forms very commonly appear together in the same individual. My belief is, that the scaly eruption follows, or is associated with condyloma only, and that when we meet with a papular, pustular, exanthematous, or vesicular eruption of a syphilitic nature in addition to the scaly, there have been two distinct primary affections,—the one proceeding from the poison of condyloma,—the other from that of chancre.[3]

a. Papular venereal eruptions may be mistaken for some forms of lichen and scabies. Mere inspection is often insufficient to enable one to distinguish positively between *lichen simplex* and *lichen syphilitica.* An inquiry into the collateral circumstances, and an observation of the progress of the case may be indispensably necessary to enable the diagnosis to be established. The venereal disease is spread over the whole, or a large part of the body, much more frequently, than the non-venereal lichen. Its nature is pointed out by the papules uniting, and becoming converted into large copper-coloured spots.

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[1] Some months ago, Dr Malcolm and I were requested to give a written report as to the nature of an eruption upon a lady recently married. The primary symptoms of syphilis had been cured by means of mercury, but the appearance of the skin proclaimed the disease.

[2] Under the term *scaly*, I of course include the *horny* eruptions, as they are modifications of the same kind of morbid growth.

[3] I use condyloma in the extended sense in which it is employed by Mr Wills and Dr Skae; and chancre in the sense attached to it by M. Ricord.

Small papules need not be mistaken for the vesicles of scabies. To make the diagnosis between itch and syphilitic lichen, careful inspection is all that is required; recollecting that the former is a vesicular, the latter a papular eruption.

b. Pustular venereal eruptions may be mistaken for the non-syphilitic forms of acne and ecthyma. The base of the syphilitic pustules, and often also the skin in its neighbourhood, present a dull dingy red, or coppery aspect; whereas in non-syphilitic acne, the skin around the pustule is invariably of a decided, or even bright red colour.

c. Exanthematous venereal eruptions generally appear along with, or follow very soon after the primary affection. They have been mistaken for rubeola and urticaria, and *vice versa;* but the progress of the case will in every instance prevent a person of ordinary qualifications from committing such an error, or set him right should he by rashness fall into it.

d. Vesicular venereal eruptions are admitted by those of the most extended experience, to be very uncommon. It is well, however, to remember that venereal vesicles are stated to be distinguishable by their having a copper-coloured areola around them.

e. Tubercular and scaly venereal eruptions are generally the sequelæ of the primary form of condyloma. Though they invite to lengthened pathological discussion, I will not now do more than hint at some of the most important and least disputed facts regarding them. I have seen cases of what were called *psoriasis guttata* and *psoriasis gyrata* of the scrotum; and heard them pronounced by persons of experience not to be of venereal origin. The facts are too indistinct in my memory to warrant my giving the details of these cases; but I distinctly recollect that one of the patients had that peculiar affection of the throat which occurs in the course of condylomatous disease. In doubtful cases, then, it would be well to watch for the appearance of this, and also to notice from time to time, whether no little patches of the lepra of condyloma appear on any part of the body. The lepra of condyloma[1] is easily distinguished from every other form of skin disease. The patches are smaller, more irregular, and of a more dusky hue, than those of ordinary lepra. No one who has ever seen the two diseases, and carefully marked their points of difference, will ever afterwards mistake the one for the other. *Lupus* and syphilitic ulceration of the nose are sometimes very like one another. The practical difficulty of distinguishing between them, however, is not great, as the latter is generally associated from its commencement with disease of the periosteum and bones, or with some other well marked constitutional affection.

The treatment of these skin diseases can be very briefly stated. The diet must be carefully regulated, and the state of the bowels, skin, and kidneys, made matter of special attention. All this must be done by the simplest means which can be devised; for the system is always in a more or less irritable state, and exceedingly abhorrent of most drugs, and of all except in very moderate quantity. There are few uncomplicated cases which cannot be cured by the warm bath every second, third, or fourth night, and the internal use of corrosive sublimate, or arsenic, or both at alternate periods. Mischief in place of benefit will result from giving them in large doses. In bad cases it is always of advantage to begin the treatment by taking from three to six ounces of blood from the arm. In obstinate cases this may be repeated several times with great benefit, at intervals of 8 or 10 days. Hydriodate of potash is sometimes more useful than either of the remedies mentioned. It was first employed in secondary syphilis by Brera in 1821; and his example has since been followed by very many, among whom deserve special notice, Ricord, Biett, Baumés, Wallace, Sperini, (of Turin) Schützemberger, (of Strasburg) and Guértine, (of Antwerp). In the hands of these physicians it seems to have cured every form of secondary venereal disease.[1] The doses and method in which it is recommended to give corrosive sublimate and hydriodate of potash, have already been mentioned at p. 767. Of the arsenious acid, I commonly prescribe one 20th or one 24th of a grain, to be taken four times a-day or oftener, in a large draught of water, or other simple vehicle. I intended to have here introduced a series of cases, with remarks upon a variety of the local and constitutional remedies employed in the treatment of syphilitic and other skin diseases; but as this paper has already extended to a much greater length than I anticipated when I sat down to arrange my notes, I must here for the present leave this subject.

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[1] That is the *lepra venerea or syphilitica* of authors.

3. *Congenital Syphilis.*

The product of conception, in its very earliest moments, may suffer from syphilis inherited from either parent; and when so tainted, it is specially liable to perish. The following case affords an instructive illustration of the effects of intra-uterine syphilis, and of the fact that it may be transmitted to progeny by parents from whom it has apparently been eradicated. It is a much more fruitful source of abortion, and death after birth, than is generally believed.[2]

Case 13. "M. P." says Dr Tuhrmann, "affected in his youth with *ozena syphilitica*, was radically (?) cured by the solution of Plenck. He afterwards married a girl, who at the age of 18 had a chancre on the genitals, which slowly disappeared under the external and internal use of mercury. Subsequent to these events, neither spouse had the slightest symptom of syphilis. The first child of their marriage appeared healthy at birth, but fourteen days afterwards was covered with an eruption of miliary vesicles, which extended, coalesced, and became excavated, leaving in some places brown spots, and in others ulcers with all the characters of chancre. The child was treated with Æthiops mineral without success; and died of marasmus. The mother was after this delivered of six successive infants, presenting similar symptoms, and perishing in the same way. During her eighth pregnancy she was subjected to a mercurial course; and was delivered of a son who throve well. During her ninth pregnancy the mercurial treatment was repeated with the same benefit. But in her tenth pregnancy it was neglected; the infant, a female, was at first healthy, but afterwards became covered with a syphilitic eruption, and died of marasmus at the end of six months, although mercurial treatment was resorted to. The mother in her eleventh pregnancy again took mercury; upon this occasion she gave birth to a healthy female child, which was reared."[1]

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[1] Sperini.—Annali Universali, Oct. 1842.—Schutzemberger.—Gazette Médicale de Strasbourg, and Annales de Thérapeutique, July 1843, p. 142.

[2] *Vide* the Review of Lugol on Scrofula, at p. 708, of Monthly Journal for August 1844.—Vanoni in Gazette Médicale for 1843, p. 207, quoted from "Il Raccoglitore Medico for 1842."

According to Vanoni,[2]—and he is probably quite correct,—mothers labouring under syphilis previous to conception, usually have threatenings of abortion about the middle of the fourth month, and are generally confined about the end of the sixth, or the beginning of the eighth month. Slight accidents may determine the event at earlier periods. Death of the fœtus is often the mmediately exciting cause of miscarriage.[3] In such cases, pleuitis and peritonitis are among the most common lesions found on lissection, as appears from the remarkable researches and obserations of Professor Simpson.[4]

The questions in connection with congenital syphilis which come efore us as practitioners and medical jurists are:—

a. At what age does it appear?
b. In what form does it appear?
c. Can it be communicated by an infant to its nurse?
d. What treatment ought to be adopted before birth?
e. What treatment ought to be adopted after birth?

a. At what age does it appear?—Though the syphilitic taint of ither parent is a common cause of early abortion, yet the lesions und on dissection are insufficient, in the present state of intraterine pathology, to give clear testimony *per se*, as to the real rigin of the mischief. Another source of great difficulty is this, —that syphilitic infants, in the vast majority of cases, are born an apparently healthy state, and appear to be doing well, till all t once, the dreadful taint declares itself by indubitable tokens.

Cliet, recording his experience of infantile disease in the wards evoted to foundlings at Lyons, (to which, from 16 to 17,000 are annually admitted,) remarks, "that it is one of the diseases which most commonly afflict abandoned children, and that it is all the more appalling and dangerous, that it is extremely rare for it to manifest itself at birth by evident signs."[1]

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[1] TUHRMANN.—Œster. Medicinische Wochenscrift, as quoted in the Gazette Médile for 1843, p. 401.

[2] VANONI, *op. cit.*

[3] VANONI thus expresses himself on this point.—"L'infection syphilitique provoque contractions uterines et amène dans le corps du fœtus des modifications de nature oliciter sa séparation d'avec l'organisme de la mére."

[4] SIMPSON.—"It appears to me highly probable, from the investigations which I have eady made on this point, that a great proportion of those children of syphilitic mothers at die in the latter months of pregnancy, may yet be shown to have perished under acks of peritoneal inflammation."—*On Peritonitis in the Fœtus, Ed. Med. Sur. Jour.* . 137.

Cristofori, physician to the Foundling Hospital of Bologna, states, as the result of his observations, that in whatever way syphilis be communicated to infants, it most commonly manifests itself between the ages of one and three months; in very few individuals has he seen it appear later; in almost none under a month; and in no single instance was a newly-born infant admitted with the disease unquestionably developed.[2]

The testimony of good observers possessed of so large and excellent a field as that of the physicians just quoted, corrects the error into which many have fallen,[3] of supposing that infants tainted with syphilis are usually born with the unequivocal marks of it upon them.

It is important to remember, that a variety of appearances met with in infants are often, without any rule, pronounced by practitioners to be venereal, such as purulent discharges, and cutaneous diseases. Those who may wish to balance for themselves the value of the opinions of authors on this subject, ought to bear this in mind. Interesting though the subject be, limited space prevents me from entering upon the further examination of it in this place.

b. In what form does it appear?—Syphilitic infants generally suffer from sore throat and hoarseness. Pustules are the most common manifestations of congenital syphilis. Their most frequent situation is in and around the mouth, upon the genital organs, buttocks, and upper parts of the thighs. They soon ulcerate, coalesce, form fissures, and yield an offensive discharge. They may be mistaken for congenital small pox, of which a good number of cases have been recorded. There is an instance of this kind mentioned by Jenner; and in Guy's Hospital museum, I have seen, well preserved in alcohol, an infant covered with small pox. Similar cases have been recorded by Sydenham, Mauriceau, and many others.

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[1] CLIET.—"Une des maladies les plus communes qui affligent les enfans abandonnés est la syphilis, affection d' autant plus funeste et dangereuse, qu'il est extrêmement rare qu' elle se manifeste au moment de la naissance par des signes évidens."—P. 4. *Seconde partie du Compte-Rendu Médico-Chirurgical des observations recueillés a l' Hôpital Général de la Charitè de Lyon.* Lyon: 1823.

[2] CRISTOFORI.—I have not seen the original paper of this author; and only a very short extract of it in the *Gazzetta Medica di Milano,* for the 6th of April 1844. There, however, the following sentence is given as an exact quotation:—"Qualunque sia il modo onde il contagio si è comunicato ai bambini da un mese ai tre dopo la nascita è quello spazio di tempo nel quale è piu frequente la manifestazione della sifilide: in pochissimi individui appare dopo i tre mesi, in quasi nessuno prima del mese: niun bambino appena nato entro nell' Ospizio a malattia sviluppata."

[3] Among others Dr William Campbell, who says:—"That in *occasional* instances a fœtus much contaminated with syphilis will be retained to the full period of utero-gestation, and even appear plump and healthy for days, or indeed, weeks after birth, must have been noticed by all obstetric practitioners of experience; but such cases *only constitute the exceptions to the general rule.*"

The same characters which point out an eruption in the adult to be syphilitic will do this also in the youngest infant.

c. Can it be communicated by an infant to its nurse?

That this question ought to be answered in the affirmative, will sufficiently appear from the following cases, selected from my notes of many authors.

CASE 14. *Syphilitic infant communicating the disease to a healthy nurse.*—M. Bouchacourt relates the following case. Ch. aged 42, is the mother of four children, the eldest of whom is still living, has never had any complaints; her last child, now a year old, was perfectly well till four months ago, and actually furnished a physician with good vaccine matter for several children. About thist ime she got a child about two months old to nurse Six months after she had begun to give it the breast, there appeared around her left nipple, small pustules, and subsequently chaps and ulcerations; at the same time the glands in the axilla became enlarged. The chaps increased in size, and the ulcers resulting from them encompassed the base of the nipple; some days afterwards, the child of Ch. was observed to have pustules round the mouth, afterwards purulent ophthalmia, then pustules on the arms, back, neck, chest, and around the anus. She gave back the strange child, and subjected herself and infant to local and general treatment, which subdued the symptoms, but nevertheless did not prevent secondary consequences.

Before proceeding to the treatment, it was necessary to determine the nature and origin of the disease. The details already given show it to be syphilitic. MM. Gensoul and Leriche agreed in this opinion, and prescribed mercurial treatment, the beneficial effects of which tended to confirm the diagnosis. In the infant Ch. the pustules of the face and around the anus, dried up and cicatrized. In the mother, the greater part of the ulceration was healed, but whether through negligence in the treatment, or greater inveteracy of the disease, there remained, when M. Bouchacourt examined her, two indurations above and in the substance of the left nipple; one of which was ulcerated, and had a greyish tint. The throat seemed to be affected, being red and inflamed; and the gums were grey coloured. Was this the commencement of salivation? Upon the skin were phlycacious pustules. A very attentive examination was made of the genital parts of the woman and her husband. They presented no ulcerations.

It clearly appeared that the mother and child were healthy till the former got the strange infant to nurse; which, it was ascertained, when entrusted to her, had the face swollen and covered with pimples, (*boutons*), a running from the nasal fossæ, and recent violet-coloured cicatrices upon the hips. It further appeared, upon investigation, that when with its first nurse, it had been treated by the medical attendant of the parents, with baths, a syrup, and an ointment; and also that the first nurse had become unwell at this time, and had had ulcers upon both breasts, along with engorgement of the glands of the head and neck.[1]

CASE 15. *Syphilitic infant communicating the disease to a healthy nurse.* "I have seen," says Dr William Campbell, "several instances in which a diseased infant contaminated a perfectly healthy nurse. In one of these cases, where there were ulcers on the child's mouth, the breasts, and thereafter the whole system of the nurse were affected, and that in so short a period of time as to be scarcely credible. On a Sunday forenoon this individual received to nurse a twin infant, born of a parent who had been contaminated by her husband, but in whom the complaint was thought to have been completely removed by the use of the hydriodate of potash; and although, from the disease having appeared in the child, it was returned to its mother on the Thursday following, the nurse was nevertheless contaminated; the mammæ became affected with copper-coloured blotches, and the nipples surrounded by chops and small ulcers."[1]

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[1] Gazette Médicale for 1841, pp. 534–5, where there is an abstract of M. BOUCHACOURT'S paper from the Revue Médicale.

Two cases of the same kind came under my notice when I was physician to the Royal Public Dispensary. I regret that I have no notes of them, and that my recollection of some of the particulars is unsatisfactory.

d. What treatment ought to be adopted before birth?—Dr Tuhrmann's case, quoted at p. 770, shows in a most remarkable manner, the advantages which may be derived from administering mercury to the mother during her gestation. When the fœtus is deeply tainted with syphilis, abortion is less likely to be caused by salivation, than by refraining from it. In support of this statement many authors of the highest practical authority might be quoted. Vanoni, for example, recommends mercurials; and Dr William Campbell cites cases from his practice in which a similar treatment proved of signal benefit.

e. What treatment ought to be adopted after birth?—No remedy can supersede mercury. It may be given in various ways with nearly equal advantage. I do not understand the grounds upon which some prefer inunction to all other methods. When I have wished to bring infants of a month old or less under the influence of mercury, I have of late directed one grain and a half of calomel, and twelve of prepared chalk, to be mixed together, and then divided into twelve powders, one of which is to be administered every third hour. If the gums are hot and painful at the end of this time, the mercury is suspended for twelve or twenty-four hours, to be resumed at similar intervals till the disease is cured. In addition to the internal use of some preparation of mercury, we must not neglect the frequent use of the warm bath, and the application of soothing liniments to the sores.

4. *Prophylaxis of Gonorrhœa, Syphilis and Condyloma.*—The means adopted to guard against venereal contamination in coitu are various; and some of them are so well known as not to require notice. Those which are most to be trusted to are lotions for removing or decomposing the poison before sufficient time has elapsed to admit of its being absorbed. Thorough ablution with water may be sufficient; but chlorinated washes are most relied on.

Ricord has correctly observed, that absorption of the poison does not take place in the male till after ejaculation, on account of the turgid state of the organ up to that time. In the male, a simple and tolerably efficacious preventive measure is said to consist in making water immediately:—by doing so, any matter which has lodged in the meatus, at the root of the glans, or on the inside of the prepuce, will be dislodged.

From the great extent of the exposed surface in females, and the difficulty of applying lotions effectively to the upper part of the vagina, they are not likely to prove so successful as in males.

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[1] DR WILLIAM CAMPBELL in Northern Journal of Medicine for May 1844, p. 12.

It is hardly possible to bring an injection into contact with the upper part of the vagina and neck of the uterus, if the patient, as is commonly the case, be seated upright in a bidet, or in some other nearly vertical position. If the fluid reach these remote regions at all, it can only remain in partial contact with them for an instant; but the chances are that it will not reach them, as is shown by some experiments which Ricord made to elucidate this point. With the assistance of the speculum, he placed pieces of dry charpie on the neck of the womb, withdrew the speculum, and threw up a coloured injection, the patient being in a vertical position. In each trial, the charpie was withdrawn untouched by the fluid. The proper position then for a woman to be in when a vaginal injection is being used, is lying, with the pelvis raised, so that the pper part of the vagina be its most dependent point.[1]

It is said that a nostrum, called the prophylactic soap of Dr Pfeffer, has been made the subject of successful experiment in the enereal hospital of St Petersburg.[2] Five hundred parts of this ompound were found to contain 6 parts of corrosive sublimate, 4 f tannin, and 45 of chloride of lime; besides the saponaceous subtance, there were discovered in addition to those mentioned above, variety of other ingredients, but all of which seemed to be unimortant.

If it be not beneath the dignity, or beyond the province of the hysician to cure venereal disorders, it is not improper for him to earch out, and promulgate means for their prevention and extincion. It must be remembered that they are diseases which not nly afflict those who contract them, but which descend as blights nd cankers from generation to generation, being thus the sources f a prodigious amount of suffering and death at all periods of extence, but especially during infancy and early life.

ARTICLE V.—*On the Circulation in the Acardiac Fœtus.* *By* MARSHALL HALL, M.D., F.R.S., &c.

By some accident, I have been prevented from seeing Dr Houson's reply to my paper on this subject, quoted in this Journal for arch last, until two or three days ago. I trust Dr Houston ll not ascribe my silence to any want of courtesy or respect for s opinions; for I beg to assure him that I do not, as he asserts, ensure" any one for his "credulity" in differing from me.

Dr Houston's paper consists of *ten* paragraphs. Referring to them, I will very briefly notice in its turn, each of those which require reply.

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[1] RICORD,—Œuvres, c. p. 693. [2] Annales Médicales Belges, 1843.

First, in regard to par. 4. It is mere assertion, and to me unintelligible. If, on the principle of "lateral action," the current of blood in the vein of the perfect fœtus has the same effect on the blood of the imperfect one, as is supposed in regard to the corresponding arteries, the circulation will again be promoted and not opposed; so that "the existence of this great vein" is anything but "fatal" to my view—"theory" I dare scarcely call it.

What I have just said is a sufficient reply to par. 5. It must always be remembered that it is the current of greater velocity which attracts the other.

On par. 6, I have only to remark that the "*pulsating* hæmorrhage" from the divided umbilical cord, after one fœtus is born, implies *two* things,—first, a second fœtus, and second, united placentæ. *How* such an occurrence "weakens the foundation" of my theory, is not stated by Dr Houston, and I cannot discover this myself.

Par. 7 requires no reply.

Par. 8, on the contrary, requires special notice. I have to state, first, that there *is* a difference between the normal and abnormal direction in the circulation of the blood. Dr Houston asserts that the *latter* is the condition of the acardiac fœtus; I maintain the former. How is this "a distinction without a difference"? Secondly, has Dr Houston really proved the "possibility of this abnormal course of the blood, by ascertaining that there are no valves in the veins?" I know that Sir A. Cooper came to this conclusion by the use of injection. But that injection was followed through the large internal veins only, and it is necessary to trace it along the *muscular* veins: has this been done?

Par. 9. I imagine this to contain a mistake. The umbilical vein, being a *fœtal* vein, performs the *usual* function of veins. It is the "analogue" of the pulmonary vein in the adult.

Par. 10 is the Q. E. D. at which, I think Dr Houston will confess, we have not yet fully arrived. I have no heart to reply to it in the same tone, and I beg Dr Houston to believe that I have no object but the discovery of the truth. I "censure" no one; I assert nothing; I only offer my views to my professional brethren, for their consideration, adoption, or rejection.

LONDON, August 17, 1844.

PART SECOND.

REVIEWS.

Sicheres Heilverfahren bei dem schnell gefährlichen Lufteintritt in die Venen, und dessen gerichtsärztliche Wichtigkeit. Von Dr Ch. Jos. Edl. v. Wattmann, *Professor der praktischen Chirurgie, und der ersten Chirurgischen Klinik Vorsteher des Operations Institutes an der k. k. Universität in Wein u. s. w.* Wein: 1843.

(*A more sure method of Treatment in the rapidly dangerous Entrance of Air into the Veins, and its Medico-Legal Importance. By* Dr Ch. Jos. Edl. v. Wattmann, *Professor of Practical Surgery, and of the first Surgical Clinic, Superintendent of the School of Operations in the Imperial University of Vienna, &c.* Vienna: 1843.

(Concluded from p. 690 *of July Number.)*

We now proceed to make a few observations upon the different prophylactic and therapeutic measures, enumerated at the end of the former part of this review.

Since the possibility of the entrance of air into a wounded vein of those parts included by Amussat, in his "*espace dangereuse*" cannot be doubted, the surgeon ought to use every precaution while operating in this region, and even in parts beyond it,—if the coats of the veins are likely to be capable of resisting the atmospheric pressure,—to avoid the wounding of a large vein. It may be advisable to follow in some cases the advice given by Dupuytren, to remove the tumour in different portions, when this is likely to faciliate its separation from the large veins in its neighbourhood. As in ome cases the large veins may be involved in, or displaced by tumours, and are liable to be wounded, notwithstanding every preaution has been taken to avoid this, the surgeon should keep teadily in mind the conditions which favour the entrance of air into the veins, to provide against their occurrence, and to counterct their influence. All stretching of the parts, either by the hands of the surgeon or his assistants, likely to keep the veins expanded, should, if possible, be guarded against. As it is during inspiration that the air is drawn along the veins, the surgeon would act pruently in suspending his incisions during its performance, when issecting in the immediate neighbourhood of large veins. The application of bandages to the chest and abdomen cannot hinder the air from passing along a vein, but it may limit the extent of the respiratory movements, and in this way prevent the air from entering so rapidly, and in such great quantity, as when the inspirations are more full and forcible. The compression of the main trunk or trunks of a vein between the heart and the part operated on, has been recommended. This plan might be advantageously adopted in some cases where the distension of the veins with blood is not apt to embarrass the operator; while in others, there may not be sufficient space left on the proximal side of the part operated on to permit it to be put in practice. If during an operation a sound indicating the entrance of air into a vein be heard, the surgeon should instantly place the point of his finger upon the place from whence the sound proceeds, and arrest the passage of any additional quantity of air into the vascular system. Wattmann appears to think that by attending to this, the surgeon can prevent a fatal quantity of air from entering the vein: and in all probability he saved in this manner the four patients to whom this accident occurred in his own practice. It is also probable that one of Warren's cases, one of Clemot's, the cases of Malgaigne, of Rigaud, of Bégin, of Velpeau, of Amussat, and of Mayor, were saved by the immediate compression of the wounded vein. This, of course, is only a temporary method of arresting the entrance of air into the veins, and can only be employed until some permanent method be adopted. This latter may be effected by bringing the edges of the external wound together, and applying pressure if necessary; or by a ligature tied around the circumference of the vein; or by a ligature applied so as to bring the edges of the wound in the vein together without obliterating its calibre. The first of these methods, viz. by bringing the edges of the external wound together, ought always to be employed when practicable. The third method, viz. by bringing the edges of the wound in the vein together, (seitliche Verbindung) without obliterating the calibre of the vessel at the point tied, was first practised by Wattmann, and is strongly recommended by him in those cases where the vein wounded brings its blood from an organ whose functions are easily disturbed by derangement of the circulation of blood, such as the brain, if the wound in the vein be not too extensive, and has not implicated too large a portion of the circumference of the vessel to permit of this. The mode in which he first applied this method to practice, is detailed in the first case extracted from his work given in the Appendix to this article. In this case he used two pairs of shutting forceps, and he also recommends (p. 101,) the use of a single pair of broad shutting forceps, (termed *Kern's Sperrpinzette*,) with the free ends of their two limbs rounded, so that when shut they resemble the chisel-shaped end of the handle of a scalpel. In these cases where the wounded vein is in the neighbourhood of a bone, and lies so deep that the application of the ligature is difficult, as in the subclavian vein, he recommends the use of two small wooden shutting forceps, of which he gives a lithographic representation. (P. 105.) These are to be applied upon the vein so as to bring the edges of the wound in contact, and left there sufficiently secured until the usual inflammatory effusions have taken place, and they be loosened, like the ligature, by the ulcerative process. Though there appears to be little doubt that rapidly compressing the wounded vein by the finger, as soon as the sound indicating the entrance of air into the veins has been heard, is sufficient, in most cases, to prevent the entrance of a quantity of air capable of killing the patient; yet in some cases the sound may either not be heard, or the opening in the vein may be so large that no sound is present, or a larger quantity of air may have entered the vein before the surgeon is fairly aware of the nature of the accident; and he is now called upon to consider what means may be adopted to remove part of the air from the vascular system. One of these means, first recommended by Magendie, consists in passing a tube along the interior of the wounded vein towards the heart, and withdrawing by suction with the mouth, or by a syringe, part of the frothy blood. Amussat, in some experiments, did not find this procedure so successful as he had anticipated. Nysten states that he recovered two dogs by forcing the frothy blood from the heart through an opening in the jugular vein, by applying pressure upon the chest. Amussat also infers from his experiments that pressure upon the chest and abdomen, during expiration, favours the exit of air through the opening in the vein, and aids the heart in disembarrassing itself of the air which distends its right cavities. Dr Cormack states, that on opening one of the large veins, in some experiments, near the upper part of the chest, the blood regurgitated from the right side of the heart, and its propelling power increased. These results are in conformity with, and explained by the experiments of Dr J. Reid,[1] who found that when the cavities of the right side of the heart became much distended with blood, the contractions of the stretched muscular fibres were much enfeebled or even arrested; and that if the distending cause was removed within a short time after its occurrence, their contractions may be much increased in strength, or even renewed, after being altogether arrested. He also ascertained that in dogs the opening of the external jugular vein, when the circulation through the lungs was much impeded and the right side of the heart distended with blood, permitted the blood to regurgitate from the cavities of the right side of the heart. In employing these various methods of emptying the right side of the heart of part of its blood, great care should be taken that no additional air enter the veins; and these precautions are especially necessary during the muscular movements of inspiration. It must be admitted that though these different methods of freeing the vascular system of part of the contained air, in some cases materially assist the attempts to renew the circulation through the lungs, yet we can readily understand how they should fail in other cases, when the pulmonary artery and its branches have become filled with frothy blood. The active application of those remedies which call forth the excito-motory movements of respiration, may be of great advantage in favouring the circulation through the lungs; and if these fail in keeping up, or renewing the respiratory muscular acts, the surgeon may have recourse to artificial respiration. The doubtful success of all therapeutical agents, when a large quantity of air has entered the veins, ought to make the surgeon the more anxious in the application of prophylactic measures.

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[1] Edinburgh Med. and Surg. Journal, No. 127.

8. *Cases of accidental entrance of air into the vascular system in the human species.*—Our space will not permit us to enter upon any critical examination of the different alleged cases of the accidental entrance of air into the vascular system in the human species; and our remarks on this head will be chiefly of a general character. Velpeau has objected to the greater part of the cases with which he was acquainted, that either the symptoms during life, and the appearances after death, did not correspond with those observed in experiments upon the lower animals, where the cause of death could not be doubted; or they were imperfectly reported, or rested on hear-say evidence. Velpeau admits[1] that the introduction of air into the veins was *probable* in the cases of Bégin, Malgaigne, Mirault, Warren, Barlow, Delaporte, one of Clemot's, the first related by Roux, and in his own. He maintains that there is *no proof* that this occurred in the cases of Toulmouche, Mott, the second and third of Clemot, those of Rigaud, Dubourg, Maugeis, and Amussat; that the occurrence of this accident was *extremely probable* in the cases of Delpech and Ulrich: and *almost certain* in the cases of Dupuytren, Castara, and Goulard. Amussat[2] divides all the cases of this kind with which he was acquainted, into four groups. In the first, he places those cases which he believes to be incontestably of this nature, where the peculiar sound, the symptoms, the death, and the autopsy, resembled the results of experiments upon animals. These are nine in number, and include the cases of Beauchêne, Dupuytren (1822,) Delpech (1830,) Castara, Roux (1832,) Ulrich, Roux (1836,) Clemot (1830,) and of Putegnat. In the second group he arranges those cases analogous to the preceding, where the autopsy was alone wanting to make them equally incontestable with those in the first group. These are six in number, and include the cases of Mirault, Warren (1833,) Goulard. Barlow (1831,) Duportail, and one communicated to him by a celebrated surgeon whose name is not mentioned. In the third group he places the cases of recovery. These are twelve in number, and include his own, the cases of

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[1] Opus. cit p. 22. [2] Opus cit. p. 95.

Warren (1833,) two cases of Clemot (1830,) Mott, Mussey, Toulmouche, Delaporte, Malgaigne, Rigaud, Bégin, and Mayor. In the fourth group, he places the doubtful cases. These he divides into two series,—into those published since the possibility of the occurrence of this accident was known, and into those published anterior to this, but which have some analogy with the preceding. The first of these series includes three cases,—those of Velpeau, Maugeis, and Barlow, published in 1831. The second series includes four cases,—those of Bonnefoy, Briot, and two cases of Pelletan. The fifth group includes cases of the accidental entrance of air from wounds made in the dangerous region in attempts at suicide, and contains two cases, those of Dr Handyside and Pellis. Amussat, along with Velpeau, evidently rejects entirely,—for he makes no mention of them,—the alleged cases of Graefe, Klein, Sir A. Cooper, Lodge, and Dubourg; and Wattmann, in addition to the above, excludes altogether, and, in our opinion, very properly, the cases of Duportail, Putegnat, Maugeis, the first case of Barlow published in 1831, and the whole of the four cases contained in the second series of Amussat's fourth group. Had Amussat been acquainted with Wattmann's cases he would probably have ranged them in his second group. Wattmann's list of cases of the accidental entrance of air in the human species, which he thinks worthy of credit, contains thirty-five examples, and of these, two were cases of suicide. This list includes his own four cases, and he has thrown it into the form of a table, found at the end of the volume, with different columns showing in each case the veins wounded, the nature of the sound heard, the result, the period of death, &c.

After a careful perusal of the original details of the different cases retained in Wattmann's list, we feel inclined to purge it still further; but this would lead us into a discussion of the evidence on which the unsatisfactory cases rest, which our space would not permit. The greater part of these are, however, undoubted examples of the accidental entrance of air into the venous system, and are quite sufficient to illustrate the importance of this subject to the practical surgeon.

In the thirty-three cases of the accidental entrance of air into the veins, during operations on the human species, which Wattmann considers worthy of credit, it entered by the following veins. In seven it entered by the internal jugular vein,—viz. in the cases of Beauchéne, Wattmann, Roux, Ulrich, Bégin, Mirault, Velpeau. In two cases, those of Mussey, and one of Clemot's, it entered by the subclavian. In three cases, those of Golard, and two of Wattmann's, it entered by the axillary. In one of Warren's cases, and in Castara's case, it entered by the subscapular vein. In one of Dupuytren's cases, and in one of Clemot's, it entered by one of the veins in the axilla, but the particular veins are not mentioned. In five cases, those of Pièrre and Condougnes, Rigaud, Malgaigne, by surgeon not named, and one of Wattmann's cases, it entered by the external jugular vein. In one of Warren's cases, it entered by a vein passing between the internal and external jugular veins. In one of Dupuytren's cases, in the cases of Barlow, Mayer, and Delaporte, it entered by other veins in the neck. In a case by Dr Stevens, referred to by Wattmann, it is said to have entered by the jugular vein, but whether internal or external is not stated.[1] In the case of Mott, it entered the facial vein in extirpating a diseased parotid gland. In Delpech's case, and in one of Roux's, it entered the veins around the shoulder-joints, during amputation. In Delpech's case, the veins were much enlarged and dilated. In Amussat's case, it entered one of the pectoral veins below the clavicle, while he was extirpating a large tumour of the breast. And in the case of Toulmouche, and in one of Clemot's, it entered by some of the veins wounded in extirpating diseased mammæ. From these cases, it would appear that in a considerable number of the cases of accidental entrance of air into the veins in the human species, the air entered by veins placed beyond the *espace dangereuse*, but in all these it is probable that the coats of the veins were rendered capable of bearing off the atmospheric pressure, or what has been termed *canalised*, by the effects of previous disease.

The medico-legal bearings of the subject.—Wattmann, in the third section of his work (p. 123) examines them at some length, and points out how far the knowledge of them will enable us to throw light upon the questions—whether a wound in the neck of a person found dead has been inflicted during life or after death? and if the former; whether it had been inflicted by his own hands, or by those of some other individual? The evidences of a wound having been inflicted during life, involving a large blood-vessel, are considered to be loss of a considerable quantity of blood, infiltration of the cellular tissue in the immediate neighbourhood of the wound with blood, or some traces of inflammation in the wound. The absence of these signs are supposed to justify the conclusion that the wound has been inflicted after death. However true this may be in other parts of the body, it does not admit of general application in wounds of the neck, for it is very possible that when one of the large veins of the neck is wounded, the atmospheric air may enter the venous system in quantities sufficient to kill, before any great quantity of blood has escaped from the wounded vein. The presence of a large quantity of frothy blood in the right side of the heart would not only prove that the wound had been inflicted during life,—for air will not enter the venous system after the respiration has ceased,—but will also explain how death had occurred, notwithstanding the small loss of blood. Wattmann gives the details of the case of a woman found dead in bed, with several incised wounds in the neck, by two of which the internal jugular vein was opened at two places. It was evident from the extent of hemorrhage and other circumstances, that the wounds had been inflicted during life: and Wattmann endeavours to prove that it was not a case of suicide, but one of murder, for not only the appearance of the wounds showed that they were inflicted by another person, but it would be impossible for a person to make these two different incisions, opening into the internal jugular vein, seeing that the air would rush in when the first was made, and induce sudden loss of consciousness. He quotes the two cases of Drs Handyside and Pellis, as the only two examples published of the entrance of air into the veins of the neck, by suicidal wounds. We feel quite satisfied that Dr Handyside misinterpreted the appearances he observed in his case, when he attributed the death partly, if not chiefly, to the entrance of air into the veins; and no one can read Dr Cormack's critical examination of it[1] without arriving at the same conclusion. The case of Pellis *rests* upon very different evidence; for here the *glou-glou* sound indicating the passage of air into the vein was not only heard, but the heart, when removed from the body, after all the large veins entering it had been tied, floated in water, and when the right ventricle was punctured under water, a great number of bubbles of air were disengaged.

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[1] Wattmann refers to Warren's Surgical Observations on Tumours, 1837, p. 18[illegible], for this case. The copy of Warren's work before us bears the date of 1839. At p 259 he says that Dr Stevens mentioned a case of the accidental entrance of air, but he does not give any details.

APPENDIX—*Containing Wattmann's Cases of the Accidental Entrance of Air into the Venous System, during operations on the Human species.*

Alexander Fiechtl, aged 44, a smith from Kundel in Unter-Innthale in Tyrol, of a stout constitution, was received into the Clinical Surgical wards t *Innsbruck*, on the 23d November 1823, on account of a white swelling f his right knee. When this disease had been very decidedly alleviated, e requested to be relieved of an encysted tumour, partly moveable, a little rger than a hazel nut, situated near to the clavicle and between the sternal nd clavicular attachments of the sterno-cleido-mastoideus muscle of the right de. For its extirpation the patient was seated on a chair, and his head was eld by an assistant standing behind him. I divided the integuments and supercial fascia at the same time with the platisma myoides muscle over the tumour, d *dissected* them laterally from some fibres of the sterno-cleido-mastoid, durg which these fibres were stretched backwards, and then separated its posterior all from the contiguous parts. The separation of a small portion of the posteor wall of the tumour was all that remained for the completion of its extirpaon, when, during the act of making a small cut, a *hissing sound* occurred, and arly at the same time the face of the patient became pale and like to that of dying person, the head and the arms fell down, and a deep syncope supervened. had rapidly placed the point of my forefinger upon the place where the last *t had* been made, and the sound ceased. I dashed cold water upon the face of e patient until he had been resuscitated. The causes of this sound, and the dden attack of syncope, were to me at the time unknown; so I considered the noval of the tumour necessary in the first place, for the full exposure of the

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Cormack.—Remarks on a case of Suicide, published by Dr P. D. Handyside. Edinburgh, 1838.

parts lying behind it, and for investigating into these, I withdrew the forefinger, pulled the tumour forwards as little as possible, and hastened to make the last cut necessary for its complete removal. Scarcely had the compressing finger been withdrawn than the sound and syncope again occurred. When the tumour was removed, I replaced my finger and proceeded to revive the patient. During this time I made the following reflections. What can be the cause of this sound and profound syncope? I supposed three accidents only possible in this region; either *a*, the upper end of the sac of the pleura was opened, and the air had rushed into it; or *b*, an abnormal branch of the air-tubes has been cut into, and the air had rushed out through it; or *c*, the internal jugular vein has been opened, and the air had entered it. Though there was probability in support of the occurrence of the first accident, because air rushes into the sac of the pleura when an opening is made into it, yet, on further reflection, there was little evidence in its favour, for neither the hissing sound nor the sudden and deep syncope from this cause had ever been witnessed by myself, nor, as far as I am aware, by any other; besides, the wound at the lower part of the neck was not so deep that it could, in the normal state of the parts, have opened into the upper end of the sac of the pleura. The occurrence of the second accident was most improbable, seeing that no writer on pathological anatomy has seen a branch arise from the trachea above its usual place of bifurcation into the two bronchi, and pass to the lungs; besides, the opening of such a branch present, and the passage of the air outwards and inwards, would have been attended by no hurtful consequences, because air may pass into an opening in the trachea itself without danger, as in the operation of tracheotomy, and neither hissing sound nor syncope be observed. There remained no other supposition, than that the internal jugular vein was wounded. As Magendie by his observations and researches had made it known, that atmospheric air may enter into this vein and produce suddenly fatal consequences, so I attributed the hissing sound and syncope entirely to the entrance of air. But I expected that when this vein is wounded, blood would flow from it, a circumstance which, in the recorded cases, is passed over in silence, and it did not occur in mine. The absence of bleeding had raised doubts in my mind as to the correctness of the interpretation of the phenomena, and it became necessary to examine carefully the parts themselves. I felt the more inclined to do this as the patient had recovered from his syncope, and I was satisfied that by the rapid covering of the place with the point of my finger I could arrest the threatening danger. I removed the point of my finger cautiously, and found at the posterior surface of the wound a longitudinal slit, like to that made in performing phlebotomy, in the coats of a canal running from above towards the chest. From this opening the hissing sound was again heard; it ceased, however, on separating the edges of the opening wider from each other, *through which no blood flowed;* but I could through this opening; 1*st*, hear a moist sound very different from the former hissing one, and synchronous with the systole of the heart; 2*d*, also see distinctly during the contractions of the heart, dark red blood rise up from the deeper part of the canal near to the opening, but none of it flowed out through it; and, 3*dly*, that the upper part of the canal was in a state of change, so that, from time to time, at short intervals, a wave of blood, by no means forming a continuous column, flowed downwards.

During the flow of blood downwards through the upper part of the blood-vessel, it was half full, and was of a bluish colour, while, when it again collapsed, it became of a reddish-white colour. The descending wave of blood did not open the fissure in the vein, and did not flow through it; but one could distinctly remark, that at this part it formed a hollow, yet not an entire cylinder, which passed downwards along the walls of the vessel to the deeper parts without flowing through the slit, nearly in the same manner as water flows from a full pitcher when the open part is suddenly turned downwards.

These observations, which were made in a few seconds, convinced me that the internal jugular vein was opened in the longitudinal direction to the extent of 2¼ lines, and the syncope again recurring and increasing now demanded speedy and permanent aid. I was unwilling to have recourse to the ligature of the vein, because I was afraid that apoplexy would be the consequence of impeding the return of the blood from the brain. I proposed to myself the problem, how this opening might be perfectly united without obstructing the calibre of the vessel at this part? I solved this problem in the following manner. I pressed both sides of the vein moderately together, so that the edges of the slit formed the most projecting part of its walls, then seized the upper half of the two edges of the slit in a somewhat oblique direction with a pair of shutting forceps (Sperr-pinzette), and having seized the lower half of the edges in the same manner with another pair of similar forceps, I shut them both. The points of the two pair of forceps touched, and their axes formed an obtuse angle with each other, and an acute angle with the vein.

At this time I caused the patient, who was still in a state of syncope, to be carried to his bed, because it was difficult to keep him in the erect posture, and I expected he would be easier resuscitated in the horizontal position. While he was being carried to bed, I myself held the two pairs of forceps, in order to prevent any change in their position. After he had been placed in a horizontal posture in bed, I placed a ligature behind both forceps, and tied it upon the vein. The forceps were removed, and the ligature remained firm. The ends of the ligature were allowed to hang out of the wound, were retained on the side of the neck by a strip of plaster, and the edges of the external wound were also brought together by strips of adhesive plaster. The efforts to resuscitate the patient, effected partly by the dashing of cold water upon the face, partly by placing vinegar under the nostrils, were carried on until at last he revived.

Now, a new phenomenon interesting to physiologists presented itself. After he had completely revived, and was able to perform voluntary movements, it was found that the upper and lower extremities of the *left* side were paralyzed, while the ligature had been applied on the right side. This was perhaps owing to the pneumogastric nerve being somewhat stretched by the ligature. After 24 hours, pain was felt in the paralyzed limbs, which seemed to be a forerunner of spasmodic contractions. These lasted for three days, diminishing in strength daily, and after they had disappeared, the sensation and voluntary movements of both limbs were as perfect as formerly. The progress of the healing of the wound was marked by no unusual occurrence, and the inflammation and suppuration were moderate. The ligature came away on the twelfth day after its application; no bleeding followed, and the cicatrization of the wound was completed on the twentieth day.

The advantages of the plan followed by me, and the danger of adopting the advice given by Magendie, "to obstruct the whole calibre of the vein by ligature or pressure," are shown by a case related by Dr Heineken of Madeira. It is as follows :[1]—The patient received a stab with a knife between the condyle of the lower jaw and the mastoid process, immediately below the pavillon of the left ear. A knife 2⅓ inches long, ⅓ inch broad, and somewhat curved at the point, was thrust up to the hilt. A copious hemorrhage immediately followed, which it was endeavoured to restrain by pressure of the finger. After some difficulty the wounded temporal artery was tied, but the bleeding notwithstanding this was not arrested. As the patient was now exhausted in the highest degree, the placing of a sponge in the wound, and strong pressure, were employed to stop the bleeding as rapidly as possible. Two hours after the arrestment of the bleeding, coma supervened with paralysis of the *right* arm and *right* leg, with full pulse. Notwithstanding repeated bleedings and the free use of purgatives, the patient died of apoplexy on the 17th day. A wound more than half an inch in length was found in the internal jugular vein, immediately below the base of the cranium. All other important parts, with the exception of the temporal artery, were uninjured.

I had twice an opportunity of hearing a hissing sound similar to that noticed above, when extirpating tainted axillary glands. In these two cases the venous blood flowed at the same time into the wound. I tied two ligatures around the vein, close upon the wounded part, and prevented the threatened danger. The tied venous trunks remained a long time distended and hard, from the stagnated blood. Gradually, however, the blood found its way through the collateral vessels. As long as this stagnation of the blood continued, the extremity was colder and redder than natural, and its sensibility was impaired.

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[1] Edin. Med. and Surg. Journal, July 1828.

Several conclusions present themselves on a comparison of these observations,[1] which are important both in regard to diagnosis and practice. Among the *diagnostic* indications are the following:—1. The opening of a vein which empties itself immediately into the cava, is not necessarily followed by a flow of venous blood. 2. It favours much more the entrance of the atmospheric air, its passage into the chambers of the heart, and from them into the smaller and larger circulation. 3. This mechanical intermixture of the air produces,—when a certain quantity has entered the veins,—very rapidly the death of the patient. 4. The entrance of air into the veins, during the performance of a surgical operation, is known by the sudden occurrence of a hissing sound, which is rapidly followed by the deep syncope of the patient. 5. The sound ceases at the exact moment that the opening in the vein is obstructed by pressure, and is again heard when the pressure is removed. 6. It also ceases of itself in the highest degree of syncope. 7. When the pressure is applied upon the opened vessel between the heart and the opening, the blood will flow out into the wound from the more distant part of the vessel, if the blood can still pass along it. 8. The death of the patient follows the deep syncope in a few minutes, when the entrance of air into the veins is not rapidly prevented.

Among the *therapeutic* indications are the following:—1. The passage of air into the veins can in a short time be arrested by compression of the opened vessel. 2. The placing of a ligature around the circumference of the opened vein, is advisable in these cases, where the stoppage of the circulation along it disturbs the functions of no important parts. Dangerous consequences may especially follow in the case of the brain, and produce apoplexy. 3. The application of such a ligature, when it is advisable, between the opening in the vessel and the heart, hinders, it is true, the entrance of air into the right side of the heart, but favours the escape of the blood which flows from the branches towards the opening in the vein. From this it follows, 4thly, the necessity of placing a second ligature on the distal side of the opening. Further, in those cases in which a branch terminates in the posterior wall of the opened vein, between the two ligatures, and the bleeding continues, a third ligature is requisite. 5. When the ligature of the vein in the usual manner is not advisable on account of the arrestment of the circulation of the blood along it, the union of the solution of continuity in the coats of the vessel, ought to be effected by bringing the edges of the wound together. This, when the wound is small, may be effected in the manner which I successfully followed. In a case where the opening is larger, it may be performed by fixing upon the vein a pair of shutting forceps, with a broad and rounded point, so as to press the edges of the wound reciprocally together, and retaining them for several days, (at least until the end of the third day) the patient being kept as still as possible, till they come away of themselves, so that by their pressure they cause the effusion of lymph, and the adhesion of the walls of the vessel kept in contact. This result may be expected with more certainty than after ligatures of the arteries, for the current of blood does not move with so much force in the veins as in the arteries, and calcareous deposits are more seldom present in the former.

We cannot concur with Wattmann in the physiological conclusions which he has formed from the observations made in this case. He believes that these show that the blood in the large veins in the neighbourhood of the heart, is not drawn into the chest by the muscular movements of inspiration, but by the diastole of the right side of the heart; and also prove that not only paralysis, cramp, and pain of the limbs of one side of the body may arise from lesion of the opposite side of the brain, but also that an injury of a nerve of one side exterior to the skull, may produce as striking symptoms of disease of the opposite side of the body, as on the side from which it has its origin. With regard to the first of these conclusions, we would merely remark, that the effects of the respiratory movements, in producing the flux and reflux of blood in the great venous trunks, at their entrance into the chest, are too firmly established, to be in the least shaken by the observations made in this single case by Wattmann. Circumstances may have prevented the respiratory movements, at the time he made his observations, from exerting their usual influence upon the circulation of the venous blood, in the neighbourhood of the chest, and there can be no doubt that as the flow of blood through the lungs was much impeded, the reflux of blood into the venæ cavæ and their branches, from the contractions of the right side of the heart, would be greater than natural. The second physiological inference receives no support from the very numerous experiments which have been mado to elucidate the functions of the pneumo-gastric nerves, and we are therefore led to conclude, that the paralysis of the opposite side of the body was not dependant upon any irritation or stretching of the pneumo-gastric nerve by the ligature applied to the vein, but upon some lesion of the brain itself.

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[1] The term *observations*, not only applies to his own cases, but to the other cases contained in his work.

Two cases of the accidental entrance of air into the axillary veins, which ccurred to Wattmann, are very briefly mentioned in the work before us, as fol-ows: "Two cases in which air entered the vascular system in consequence of aving wounded the axillary vein, occurred to me in the Surgical Clinique in Vienna, in the years 1825 and 1826. In these I applied the above rules of ractice, and thus prevented the occurrence of the higher degree of syncope." . 106.

He also relates a fourth case, which he publishes for the first time. Phi-omena Dorschner, aged 14 months, was brought, on the 10th June, to the urgical Clinique, to be freed of a venous aneurism by anastomosis. (Te-*ngiectasia* Venosa.) This was situated on the left side of the neck, half an nch above the clavicle, close behind the sterno-cleido-mastoideus muscle, and rmed an oval swelling, of a violet colour, as seen through the skin. Two lliptical incisions were made by one of my pupils, through the skin, down the areolar tissue, so as to surround the tumour. After dissecting back the aps, a small bundle of enlarged vessels were still seen at the upper corner of e wound. These were seized with the forceps, and removed with much cau-on, because the possibility of the entrance of air into the veins was foreseen. removing the last point of the tumour, a *hissing* sound was heard. The face the child was seen to become pale, strong convulsions came on, abundance froth covered the lips, and then it lay in a state of deep syncope. The ex-rnal jugular vein was rapidly seized with the fingers, both above and below e wound, the wound was cleared of blood, and now a round gaping opening one of the dilated branches, terminating in this larger vein, was seen. In is case also was the ligature applied to bring the edges of the wound in the in together. The sprinkling of cold water upon the face, and the fumes of negar applied to the nostrils, removed the syncope in 10 minutes. The con-lsions, however, returned several times, for the next half hour; but they ceased after full vomiting. Till the ninth day after the operation, the suppurating wound appeared clean; on the eleventh day, the ligature came away, and the healing of the wound visibly progressed till the fourteenth day. After this the wound assumed an unhealthy appearance, and enlarged, without any assignable cause. On the following days the symptoms of pneumonia developed themselves, and the child died of this disease, on the twenty-eighth day after the operation. The autopsy was unfortunately not permitted.

In this case, the possibility cannot be called in question, that the air, in relation to the child being but 14 months old, may have amounted to a significant quantity, and may have entered rapidly through the round opening, occasioned a lesion of the capillary vessels of the lungs, and contributed to the development of the inflammation of the lungs; for the action of atmospheric air upon the inner surface of the vessels of the lungs had certainly taken place, whilst no other circumstance can be alleged; and it is a known fact that the continuous action of air occasions such a lesion of the inner surface of serous membranes, that it developes an inflammation. For the prevention of these consequences the tying of the last portion of the enlarged vessels is preferable to the cutting of them.

1. *Views upon the Statics of the Human Chest, Animal Heat, and Determination of Blood to the Head.* *By* JULIUS JEFFREYS, F.R.S., &c. &c. Pp. 233. London: 1844.
2. *The Plagiarisms of Julius Jeffreys, F.R.S., in his Treatise on the Statics of the Human Chest.* *By* G. CALVERT HOLLAND, M.D., &c. &c. Pp. 36. London: 1844.

We entertain a very decided aversion to "*patents*" of all kinds, connected with the science of Medicine, believing that they savour of, and tend directly to foster and encourage the demon Quackery, in one or other of the multifarious forms which she, chameleon-like, from time to time assumes, for the purpose of deluding the weak-minded and illiterate. No doubt it may be urged, that a medical man who makes an important discovery connected with his profession, has just as good a right to protect his interest by letters patent, as any discoverer in the sciences of mechanics and engineering. This *money-making* view of the question has, however, fortunately, we think, never gained favour among the scientific portion of our profession; indeed, with a very few exceptions, illiterate pretenders only have taken advantage of the law in reference to patents; and when we reflect for a moment on the wholesale murders which have been perpetrated by these licensed poisons, as we may designate many of them, we are induced to entertain a hope that some other means of supporting the revenue of the country may be devised, and that the stamp of Government may be no longer prostituted by its protection of dangerous nostrums. At present, when legislation in reference to our profession is contemplated, we trust the magnitude of the evil of allowing any party who can pay the expenses of procuring a patent, to dispose of any preparation, however deleterious, may not be overlooked. We confess, however, with deep regret, that the proposed measure, though upon the whole good, is little calculated to correct this class of evils. What does the quack care whether he is registered or not? or, that he has not the power of legally enforcing the payment of his bills? Why, in every case, the false hopes held out,—the anticipations of permanent cure never to be realized, and which no honest man would give, is the only registration such impostors desire; and as for the payment of their bills, in 99 cases out of the 100, they take special care to be prepaid,—to have the ill-gained coin in their pockets before the film drops from the eyes of their dupes.

Hitherto, disinterested philanthropy has characterized our profession—every feeling selfish and interested has merged in the noble desire to relieve the sufferings of humanity, and benefit mankind: and we trust the feeling may never become common, to withhold from the general public, from mere mercenary motives, a discovery which is considered a boon. Patentees adopt various methods of pushing the sale of their commodities,—the *press* has been forced into their service in various forms,—from the obscene hand-bill or bawdy newspaper advertisement, to the ponderous octavo.

We have been led to make these remarks from the belief, that the first of the books heading this notice may, with justice, be viewed in the light of an advertisement. Mr Jeffreys, the author of the *Statics of the Human Chest*, is best known as the patentee of the respirator bearing his name. Regarding the value of this instrument, we are not called upon to express an opinion; but we have no hesitation in stating, that the discoverer would have stood higher in the estimation of his professional brethren, and afforded the apparatus a much more extensive trial, had he not limited its use by exclusive rights, but given it to the public on such terms as free competition in manufacture could command.

It is but fair to state that Mr Jeffreys disclaims any connection between his book and his respirator; but after a very careful perusal of the work, we have little hesitation in thinking that few will coincide with the whole of the following passage:—

> "Of the practical views, to which the physiological contained in this volume have given rise, certain have produced the gratifying results with which the action of the Respirator is associated. To many persons my pursuits are known chiefly in connection with that instrument. It is therefore probable that some may open this volume with the view of finding a detailed account of its principle, use, and authenticated effects. This, however, would have required an entry upon various pathological questions, and upon others relating to climate, which, with a full detail of interesting cases, would have swollen the volume to a size, and given it a character, not intended; especially as I should not have considered the notice of the Respirator complete, without an examination of the objective, and otherwise mistaken opinions respecting it, of unreflecting

persons. Although these are being daily refuted by facts, it would be right to show wherein they are unsound. Such an account of this instrument I hope shortly to publish in a work upon Artificial Climates." (*Preface*, p. 11.)

The author holds out in the preface a very tempting bill of fare:—much solid, useful information,—of high practical value,—demanding a modification of the views at present entertained; and (what is of more intrinsic merit than a useful, well written compilation of the labours of others,) we are positively informed, that the author's views on many points are altogether original. But let Mr Julius Jeffreys set forth his claims in his own language:—

> "The VIEWS which form the substance, as well as the title of the present work, will be perceived by the physiological reader to be, for the most part, original; and it is for him to judge of their correctness and importance. The subjects themselves are abundantly important. (*Preface*, p. 9.)
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> "Part III treats of the diffusion and dissipation of animal heat. To the phenomena of its local abstraction, and retention, I would most particularly seek attention, since they direct us to questions of the first importance,—DETERMINATIONS OF BLOOD TO THE HEAD,—and point to an entire change in the views and prophylactic treatment to which we have been accustomed." (*Preface*, p. 10.)

In addition to the original discoveries, which Mr Jeffreys imagines he has had the good luck to promulgate, there are other views, which he has long had in his note-book, and which Professor Liebig has preceded him in publishing. But we will give the *modest* announcement in his own words:

> "In the mean time the work of Professor Liebig of Giessen has appeared, treating upon several of the same points, and announcing, upon two or three of them, views similar, in all respects, to certain which have long had a place in my notes. That work, as every thing proceeding from so high an authority must, has attracted in this country great attention. So far as I find my views in accordance with his, I may rather feel satisfaction that they have had his prior confirmation of them."

These passages, which we have quoted from the preface, were doubtless intended, and seem extremely well suited, to attract attention to the contents of the volume. We do not stumble every day upon important original discoveries, or are called upon to sympathise with one who has had the rewards of his industry snatched from him in consequence of his own dilatoriness in giving the contents of his note-book to the public: we have much more frequently cause to regret, that the matter we are called upon to read had ever escaped from its author's safe keeping. Mr Jeffreys' book has attracted the attention of a party for whose eyes it probably was never destined. Dr G. Calvert Holland of Sheffield states that he was induced to purchase a copy of the *Statics of the Human Chest*, and was very much surprised to find that the principles on which these statics rested, were entirely his own, and had been before the world in several publications, for ten or fifteen years!![1]

Irritated at the wholesale way in which he considers his work to have been stolen from, Dr Holland has published a pamphlet in which the discoveries of Mr Jeffreys are considered, and compared with his own, *seriatim*. We give a few selections from Dr Holland, so that our readers may have an opportunity of judging between the parties. It has often been remarked that "ignorance of what has been written, affords a dangerous facility in making discoveries;" but Dr Holland puts forth the direct charge of plagiarism, and we fear that he has substantiated it.

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[1] Experimental Inquiry into the Laws of Organic Animal Life, 1829. Inquiry into the Principles of Medicine, vol. i. 1834.

"In my work entitled, *An Experimental Inquiry into the Laws of Organic and Animal Life*, the leading principles by which it is distinguished are employed in tracing the important modifications which occur in different states of the animal system, in health and disease, *not only in the amount of blood in the lungs, but in the volume of air acting on this blood*. So far from my attention having been absorbed with the consideration of 'the air of the breath,' as it is oddly designated, or with the quantity received by a single inspiration, the changes of the volume of the *whole* air within the lungs, and the effects which flow out of these changes, are analyzed and illustrated at considerable length in several of my publications. The evidence of it will be adduced in the examination of his important discoveries.

"Discovery I is, that the breath has hitherto been alone the subject of speculation. The following extracts from the *Experimental Inquiry*, expose the injustice of this assertion.

"'From the little already stated concerning the action of inspiration and expiration, it is manifest that the *proportion* of blood and *air* is subject to great variations; and it is my intention to explain more particularly the nature and origin of these.

"'XVII. It is not easy to ascertain the quantity of air which is evolved at each ordinary expiration; this is so materially modified by the state of the mind, system, and capacity of the chest, that great discrepancies unavoidably exist in the results of the most distinguished chemists. But the data which I shall presume to establish, and the reasoning which will naturally flow from them, will be little affected by the varieties of opinion.

"'Dr Bostock has paid considerable attention to the subject of respiration, and his contributions are neither few nor unimportant; and, on this account, I shall draw my deductions from the experiments of this talented individual.

"'XVIII. By *an ordinary* expiration, 40 cubic inches of air are emitted; but after this, we are enabled to expel a considerable portion, and this quantity is estimated at 160 or 170 cubic inches, "so as to give 200 or 210 cubic inches as the difference between the states of ordinary inspiration and of forced or extraordinary expiration." As it is impossible to empty the lungs completely, many calculations have been made concerning the quantity of the *residual* air which must necessarily remain after violent or long continued expirations; and this most probably amounts to 120 cubic inches. From the above statement, it is clear that, after an ordinary expiration, 280 or 290 cubic inches remain in the lungs, in other words, 7 or 7¼ of ordinary inspirations. What is the intention of nature in giving to the lungs a capacity sufficient to contain almost 300 cubic inches of air after the evolution of that portion which is no longer fit for the animal economy? The explanation of this intention will throw new light on many mysterious changes of the system.'

"Here, at the very commencement of my inquiry, the object is less to determine the amount or office of 'the air of the breath,' than the volume of the air always existing in the lungs, and the important functions performed by it in the process of respiration. The data on which his views and reasoning rest, and the general conclusions flowing from them, are essentially the same. He estimates the *residual* air at 120 cubic inches, the quantity given in the preceding extract. The *residual* and the *supplementary* volumes of air which 'are permanently resident in the chest,' after an ordinary expiration, is stated as above 250 cubic inches; by me, at 280 or 290 cubic inches.

“Discovery II is, that ‘*the air of respiration neither enters the air-cells nor the smaller air-tubes;*’ it has in fact ‘*no business with the blood, nor any footing in the cells of the lungs;*’ nor has it any ‘*direct concern in the oxydation of the blood.*’ The same views are distinctly stated by me:’

“‘The air which is received by any single inspiration, does not immediately act upon the blood; its office is to supply the deficiency occasioned by the previous expiration; and after several *series* of such expirations it is then brought into *intimate* contact with this fluid, and tends to continue the successive alterations which it undergoes.’

“It is scarcely possible for words to explain more clearly the functions assigned to the breath or air of respiration, and yet he adduces the same doctrine as original, and regards it as ‘demanding a considerable modification of our previous opinions.’

“‘Discovery III is, that the air breathed out, is not that ‘*which went in, but a mixture of that air with the upper resident air.*’

“‘In the introduction to my work occur these remarks:

“‘By taking into consideration, *that a small quantity only of the air within the lungs is at any one moment deteriorated,* and, still farther, *that the left ventricle contracts* 70 *or* 80 *times per minute,* in order to propel the arterial blood which is transmitted by the lungs, we shall have reasons sufficiently ample to account for the possibility of these organs bearing such changes, and for the ease with which the system is supported in an equable temperature.’

“It is further stated:

“‘I have observed in Chap. I, xix, and xx, that the air inspired is not *immediately* expelled by expiration, but that a portion is emitted—probably the whole which is deteriorated,—while a much greater quantity of air at all times exists in the lungs; and from this it is to be inferred, that the successive chemical changes are slow, and of a delicate description.’

“It is not necessary to multiply passages expressing the same fact, the following, however, will be excused:

“‘It is impossible to suppose that air is deteriorated immediately on its being inspired; if this were allowed, the whole quantity which belongs to the lungs would be unfit for its vital function, as this must be contained in the air-cells and subject to the influence of the capillary vessels, and therefore placed under circumstances that would deprive it of its properties.’

“Discovery IV is, that according to all previous views ‘it was necessary to suppose, *that the action on the blood must be constantly fluctuating,* being at a minimum at the end of an expiration, and increasing to a maximum during inspiration.’

“The leading argument throughout my work is to prove, that as it is not in our power to *diminish* the residual air in the chest, acting on the blood, the chemical changes in the latter will be proportionate to the quantity of the blood exposed to it. Whether this principle be correct or otherwise, is not the question, nor is it on this occasion necessary to examine it.

“My views on the important subject of animal heat are based altogether on the established fact, ‘*that the volume of air in* IMMEDIATE *contact with the blood is not susceptible of any important modifications.* This opinion is stated in the subjoined extracts:

“‘As the blood is not immediately acted upon by the fresh air which is received, it follows, that the alterations are to be referred *to that already existing in the pulmonary cells;* and, moreover, it is natural to suppose, if we diminish the quantity of blood, that the chemical changes will be more complete, because the air will have a less portion to oxygenate.

“‘This contrivance (the structure which allows a large quantity of air to exist in the lungs,) is a wise provision of nature, as it enables an individual to speak, laugh, run, in fine, to accommodate himself to any kind of exercise where expiratory actions are required, without immediately affecting the office of the lungs, which would necessarily be implicated, if the inspired air were instantaneously appropriated to those changes which are indispensable for the continuance of life.’

"XVIII. 'The lungs, as stated, always contain a *considerable quantity of air;* and as this is that portion which *immediately* acts upon the blood, if we diminish this blood by a series of expiratory actions, it is philosophical to suppose that it will be more perfectly oxygenated, because a smaller quantity is submitted to the influence of that important agent.'

"Numerous other passages might be given in confirmation of these views, showing a perfect coincidence with the doctrines advocated by Mr Julius Jeffreys, but it is not necessary. As already remarked, the reasoning in almost every page of the 'Experimental Inquiry' rests on the clearly expressed opinion, that the *volume* of air acting on the blood cannot be diminished, consequently cannot be affected by expiration or inspiration. There is not, indeed, an important principle bearing on 'the statics of the human chest,' nor an application of it, that is not found in my works.

"He presents a diagram to explain how the upper stratum of air gradually descends to get into the air-cells. 'It may be asked,' he says, 'how then are the purposes of respiration fulfilled, and how are the smaller air-tubes and cells supplied with air sufficiently oxygenous? Two ways offer themselves. The first and chief is, *that of a progressive intermixture, proceeding by steps from without inwards at each inspiration.*' In treating of the same subject it is stated by me, "that the air which is received by any single inspiration, does not immediately act upon the blood; its office is to supply the deficiency occasioned by the previous expiration; and after several *series* of such expirations it is then brought into *intimate* contact with this fluid, and tends to continue the successive alterations which it undergoes.' Here is precisely the same view. In this case he is so far original, as to convert the *series* into *steps.*

"By the aid of his original views he proceeds to show how the breathing is affected by violent exercise, as running for example. He remarks:

"'An unpractised runner tries to relieve himself by the former method; but he soon feels the consequence of letting out too much of his resident air, and drawing in too deeply atmospheric air, fully oxygenous, and perhaps also cold. He gets out of breath—that is, when he wants more air than usual, he cannot take in so much; a kind of asthmatic spasm prevents him from getting air enough down, although the chest is not really more than half full. On the other hand, by practice he instinctively learns to keep adding air to that already present, and to breathe nearer to the top of his chest. He can then respire deeply without drawing in the fresh air suddenly and too far into the lungs. Also, by increasing the quantity of resident air, his cells are more fully expanded, there is more surface of action, and the blood vessels are rendered less tortuous still, by which they admit, with less distress, of the quickened circulation through them.'

"It is stated by me:—

"'The short breathing which an individual exhibits after violent exercise, as after running, is not occasioned by any condition of the heart or circulation, as is generally supposed, but arises from the diminution of the ordinary and stationary quantity of air belonging to the chest, and it ceases as soon as the repeated inspirations have re-established the order of nature.'

"The following extract, bearing on this subject, is from a paper of mine which was published in 1840:—

"'Violent exercise, as running for example, changes the natural character of respiration. During the almost suspended breathing at the beginning of the exercise, the flow of blood through the lungs is very much impeded. On its cessation, the inspirations are greatly accelerated, in order to facilitate the transmission of the several quantities of blood previously sent out by the right ventricle. The balance of circulation would be restored were the exercise long persevered in, as is strikingly exemplified in persons practised in running. At first they are distressed, breathing with difficulty, but so far from this increasing, the respiration after a time gradually becomes less laborious, they having arrived at what is commonly called the second breath. The hurried respiration arises principally from the cause assigned—more blood being conveyed by the right than is removed by the left ventricle.'

> "Having exposed, with as much brevity as the inquiry will allow, the happy coincidences of this writer with the leading views contained in my work, we will proceed further in the interesting search after others, which pervade almost every page of his treatise. In the EXPERIMENTAL INQUIRY, the modifications in the generation of animal heat, in various natural as well as induced circumstances, are considered at great length. He has passed over in silence one condition which is studied in connection with it, viz., *the changes in the* QUANTITY *of blood in the lungs in different states of the animal economy*. The *changes* in the QUALITY of it are brought, however, under consideration, and are explained almost in my own precise terms; and every other view of any importance is adopted, and the whole is advanced as original, and of great practical value."

In concluding this brief notice, we congratulate Dr Holland on the calm and dignified bearing which he maintains throughout his pamphlet. In no instance has the zeal of the controversialist, or the feeling of the injury he has sustained, led him to forget the courtesy of the gentleman. The few passages we have given afford a very fair specimen of the whole performance: we shall be glad to see it satisfactorily answered.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

ON THE CIRCULATION OF THE ACARDIAC FŒTUS. BY DR G. CALVERT HOLLAND, Physician Extraordinary to the Sheffield General Infirmary.

"THE doctrines of Dr Hall,[1] to be studied with advantage, must be treated under several different heads. It is necessary, first, to examine the interesting case related by M. Lallemand, as all that is plausible in the reasoning of both physiologists is derived from the consideration of it. It is also important to observe, that the phenomena in this case are not imagined to be evolved by any departure from the ordinary laws of organization; in other words, they are not peculiar, but universal, in all cases of twins. The flowing of the blood in jerks from the umbilical cord of the child first born, is considered by Lallemand, as well as by Dr Hall, as indisputable evidence of the direct influence of the heart of the second fœtus. The two physiologists differ in one essential respect in their views. They both equally ascribe the ejection of the blood, in jerks, to the heart; but the former, (and by this means he gets quit of one insuperable objection,) states that the phenomenon is not only evidence of a communication, during fœtal life, between the twins, 'but further, that this was established by large vessels, since the blood issued from the cut umbilical cord as if it had been only a continuation of the other. This may communicate some idea of the force of the contraction of the heart in a fœtus of about seven months.'[1]

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[1] See London and Edinburgh Monthly Journal, No. 30; for the views of Drs Hall, Houston, and Lallemand. [Vide also page 775 of this number.]

Dr Hall does not explain the phenomenon on the supposition of an immediate communication between the principal vessels of the twins, but contends that the blood traverses the capillaries of the placenta, in its passage to the umbilical vein of the first born fœtus; and thus, as it will hereafter be shown, he adds another difficulty to the one involved in the doctrine, which teaches the direct action of the heart on the motion of the blood in the cord of the twin fœtus. The first step is to analyze this doctrine in its general bearings, and endeavour to point out some of the strange conclusions to which it inevitably leads.

Whether the ejection of the blood from the umbilical vessels be examined according to the doctrines of either physiologist, it is obvious, from the force with which it is emitted, that the communication between these vessels in the divided cord, and the heart of the fœtus *in utero*, is most extensive. The blood that flows along the cord of the child first born, must have been transmitted in this course previously to its birth. These authorities state that the communication is natural, and the escape of the vital fluid in a strong current is adduced as evidence of the fact. If such are the relations between the cords after birth, is it not evident that, during fœtal life, each heart is engaged in propelling blood, not only towards its own placenta, and, as might be imagined, facilitating the return of it in the umbilical vein back into the fœtus, but in urging the blood along the umbilical vein of the accompanying fœtus? If this is the direction of the blood after the birth of the first child, it must have been equally so previously. It would be in the highest degree unphilosophical to argue for the one, and not to allow the other. According to M. Lallemand, the blood flows from the cord as from a divided artery in case of amputation; and as the impulse of the heart, supposed to be thus exerted, is neither new nor aggravated by any circumstance, its influence must have been equally extensive in every stage of fœtal life.

Agreeable to the views of Dr Hall, it is not by the connection of large vessels that the heart of the one twin transmits an impulse along the cord of the other. He contends that this influence passes through the mass of capillaries intermediate between the two cords. "The difficulty," he observes, "is to conceive that this influence can be so extended through the placental capillaries. A further difficulty would be to conceive that the same influence can extend through a second series of capillaries in the body of the imperfect fœtus, for this is essential to the return of its blood to its placenta,—in a word, to the circulation of the blood."[2] For the present, we will leave the analysis of the circulation in the imperfect fœtus, in order to examine his views respecting the transmission of the blood through the placental capillaries to the cord of the first-born child.

There is no instance, in the vast range of animal life, where the blood, issuing from a mass of capillaries, and terminating in one large vessel, in the natural conditions of circulation, exhibits, (when it is allowed freely to escape,) the force and jerking character of a divided artery. The phenomenon is an impossibility; and a little consideration will show the difficulties with which such a doctrine is fraught. It is not imagined that the umbilical vessels exert any particular influence in the projection of the blood. The effect is referred to the fœtal heart alone, and is regarded as the usual and legitimate effect of such a power acting *a-tergo*.

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[1] Observations Pathologiques propres à éclairer plusieurs points de Physiologie; Par F. Lallemand, p. 35, 36, 37.

[2] See Journal, supra cit. p. 544.

The mass of blood in the placenta, between the vessels of the twin cords, is many times greater than the quantity sent out by each contraction of the fœtal heart; and, according to the doctrine of this physiologist, every particle of this mass is urged in the direction of the cord of the accompanying or expelled fœtus, and the current which escapes on the division of it, is stated to exhibit the force and rapidity of arterial circulation. This is a physical impossibility. It might occur, were the blood in the umbilical vessels of the fœtus moving in continuous and corresponding channels to the vessels of the other, but not otherwise. When these vessels terminate in a mass of capillaries containing many times the quantity of blood which is at any one moment added to, or removed from them, the quantity which escapes cannot possibly exhibit the jerking character or force of that which enters.

In proportion as the mass of blood in the intervening placenta exceeds that which is added to it by each contraction of the fœtal heart, in such ratio will the motion of the mass be less than that in the umbilical arteries, and also, to a certain extent, the current which issues from it. The difference in the capacity of the arterial and venous systems is a just measure of the difference in the rate of circulation in each. Were the communication between the twin-cords to be admitted, the umbilical arteries of the fœtus *in utero* would necessarily have the relation of arteries to the propelling power, and the divided umbilical vessels of the child born, that of veins. It would be an impossibility for the latter, having only the capacity of the former, to remove, in equal time, the quantity of blood conveyed to the placenta by the contractions of the heart. The blood ejected could have a rate of motion corresponding with that of the mass between the two cords, and not with that receiving the direct impulse of the heart and conveyed into the placenta.

After these remarks, the general accuracy of which is unquestionable, it is easy to explain the force and jerking character of the current on the division of the funis. The impulse with which the blood is occasionally ejected, is to be traced entirely to the contractions of the uterus, by which the blood is pressed out in the direction of the vessels of the divided cord. It is almost impossible for such contractions to take place, and not to produce, in some degree, this effect, at least occasionally. The powerful efforts which the uterus makes to expel the second fœtus, and to regain a diminished capacity, is a pressure which is exerted on the mass of the placental vessels; hence the blood will, at times, escape from the divided cord in jerks, in force and frequency according to the severity and number of these contractions. Why the phenomenon should occur only in cases of twins, is not difficult of explanation. There are several interesting circumstances connected with the condition of the uterus at this time, which do not exist with one fœtus, and which are worthy of particular attention.

The escape of the blood from the cord is regarded by these writers in the same light, and the attention is directed to it as an effect springing out of an obvious cause,—the contractions of the fœtal heart. Why is not the phenomenon an equally universal occurrence? If the heart, in one case, always expels the blood with force, why does it not in another! This is an important question for those who contend for a similarity in the causes. The occasional occurrence of the phenomenon is an insuperable objection to the doctrine which ascribes it to the action of the fœtal heart. In inquiries of this kind, it is not only necessary to point out the assumed agent in the production of an effect, but imperative to show why this agent, which is always in operation, gives rise to partial results. There is not the same weighty objection to the views by which it is proposed to account for the phenomenon. According to these, it depends on the condition of the placenta, and on the energy of the contractions of the uterus, which are circumstances liable to numerous modifications. We will endeavour to point out the nature of some of them. If the birth of the first twin has been easy, and by no means abrupt, the circulation in the placenta having a relation to this fœtus, or in that part of the placenta which is more or less common to both, may have assumed a condition preparatory to such change. It may gradually have become enfeebled, as well as the connection and a certain portion of the vessels of the uterus less intimate, so that on the expulsion of the child, the uterine vessels do not continue to pour into the placenta a large stream of blood, but are much in the same state as when the fœtus is expelled in cases of single birth. If, on the other hand, the labour has been abrupt, or has taken place before the uterine vessels have adapted themselves to an altered state of things, the subsequent contractions of the uterus will, in all probability, cause the blood to flow freely from the divided funis. The phenomenon will depend on the condition of the placental and uterine vessels in connection with this funis.

The same gradual changes, with respect to the retained fœtus, may be an additional circumstance, preventing the ejection of the blood, though we do not profess to understand the influence which it would exercise, except on the supposition that the mass of vessels in the placenta in relation to one cord, may either directly or indirectly anastomose with the corresponding mass in relation to the other. The admission of this offers no very forcible objection to these views, because the diminution in the activity of the uterine circulation, to which we have alluded as an important circumstance, will, of course, lessen the vascularity of the placenta, and proportionately the tendency to the escape of blood.

The views which are here brought under consideration, will explain why, occasionally, in cases of single birth, blood escapes freely from the funis in connexion with the placenta. It sometimes happens that the fœtus is expelled before the circulation between the placental and uterine vessels has been gradually and greatly diminished; consequently, the remaining activity in the capillaries of the placenta will cause the blood to flow from the divided cord. The severe contractions of the uterus not only tend to expel the child, but in an equal degree, to lessen the activity of the uterine circulation, and according as this is effected, will the subsequent condition of the placenta be modified.—Abridged from the *Edinburgh Medical and Surgical Journal*, No. 160, July 1844.

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PRACTICE OF PHYSIC AND PATHOLOGY.

ON THE USE OF THE ALCOHOLIC LOTION IN PHTHISIS PULMONALIS.

BY MARSHALL HALL, M.D., F.R.S., &c.

So many persons affected by incipient phthisis, marked by dulness of sound on percussion, and no doubtful pectoriloquy under the clavicle, hemoptysis and disposition to chills, heats, and early morning perspirations, &c., have been benefited and restored to perfect health by the remedy or remedies which I am about to mention, that I cannot but think that they possess great efficacy.

The first and principal of the remedies is an alcoholic solution, constantly applied by means of six folds of linen over and across the upper lobes of the lungs.

One part of pure alcohol is mixed with three parts of water. It is applied tepid first, and afterwards of the temperature of the atmosphere. It is applied in *small* quantity at a time, every *five* minutes, so that the application may always consist of alcohol and water. (If applied in large quantity and less frequently, the alcohol would evaporate, and water alone would be left, and this would be the source of a feeling of discomfort, instead of the feeling of glow which the alcohol induces.) The application is easily made; a piece of soft linen, of the size of a large sheet of letter paper, being folded in the usual manner, is then folded twice more, in lines parallel with the first, so that the whole consists of six folds. These are stretched, applied across the upper part of the thorax, just below the clavicles, and fastened to the shoulder straps, or other part of the dress, which latter is to be arranged so as to be readily opened and closed. A sponge the size of a walnut is then filled with the lotion and pressed upon the linen along its whole course, the dress being opened for this purpose, and immediately closed.

This operation need not occupy five seconds. It should be repeated, as I have stated, every five minutes. The application should be incessant during the day and all waking hours, the dress being light, or even entirely removed, so as to allow of a free and rapid evaporation. It is suspended during the night. It is by no means my wish to laud this remedy beyond its just value: but I have no hesitation in asserting, that it possesses a power in checking the progress of the deposition and softening of the tubercle in the lungs, beyond any other which I have ever tried. And the number of patients who have recovered from incipient phthisis, and who, after many years, are still living, and in apparent health, induces me to express myself in strong terms in regard to its extreme value.—Abridged from the *Lancet* for April 20, 1844.

PRACTICAL OBSERVATIONS AND SUGGESTIONS ON APHORIA, OR STERILITY.
BY MARSHALL HALL, M.D., F.R.S.

Sterility, doubtless, frequently depends on organic defect; but the fact that a first child has been born after many years of marriage, is a sufficient proof that, in other cases, the defect has arisen from causes of a functional and less permanent nature. Of these, a too excited condition, and the opposite state of inertia, in the immediate uterine system, appears to me to be the most frequent. The former case is illustrated by what is observed in dysmenorrhœa, the latter by a condition of the uterus, frequently attended by leucorrhœa. They may be designated aphoria tonica, and aphoria atonica, respectively. In this point of view, sterility becomes a legitimate object of medical inquiry, and of medical treatment.

The fact that the families of the laborious poor are numerous, shows that, as a remedy for aphoria, much exercise should be taken, even to fatigue, whilst the diet should be spare. Extreme moderation in intercourse is favourable to conception: the opposite condition leads to aphoria.

But I proceed to another and most interesting view of this subject. There is an extraordinary reciprocal sympathy between the mammæ and uterus, which has always presented an object of deep interest to the physiologist. At every catamenial period the mammæ sympathise with the uterus, become tumid, and tend to assume their office of organs for the secretion of milk. Advantage has been taken of the well-known sympathy between the mammæ and the uterus for the prevention of uterine hemorrhage, miscarriage, &c.

The question now presents itself, whether any other practical application of this principle may be made?

For one week before, and at the return of, the catamenial period or flow, (when a vesicle probably bursts), the mammæ become tumid with blood, and tender, from augmented sensibility; in a word, there is the condition which, after parturition, leads to the secretion of milk. Might not this secretion be actually excited under this condition by the appropriate or other stimulus,—might not an infant be applied and suckled? And might not the uterine system, in the married and the childless, be thus brought into the healthy state required for conception?

My suggestion is, that when the mammæ are excited at the return of the catamenial period, a robust infant be repeatedly and perseveringly applied, in the hope that the secretion of milk may be excited, and that the uterine blood may be diverted from the uterus, and directed into the mammary vessels, and that a change in the uterine system, and a proneness to conception may be induced. —Abridged from *The Lancet* for March 23, 1844.

THE PULSE AS A MEANS OF DIAGNOSIS. BY DR HAMERSYK of Prague.

In general the number of the arterial pulsations corresponds with the systoles of the heart, but the pulsations and the systoles are not exactly synchronous. But it is important to know that the pulse at the wrist, at the temporal artery, and at the femoral, near Poupart's ligament, are perfectly synchronous, unless from some cause obstructing the regular arrival of the blood at any of these points. As to the frequency of the pulse, it is always proportioned to the severity of diseases, particularly in pneumonia. The author has seen an adult recover whose pulse amounted to 150 in the minute. It has been stated that the pulse is slower in cerebral affections; this, if true, would put us in the way of determining what are the nerves which regulate the movements of the heart. Heien records the case of a man in whom the pulsations of the heart stopped from time to time, during an interval corresponding to four or six pulsations. These stoppages, during which the patient retained his intellectual powers, but could neither speak nor move, at length came on as often as ten or twelve times a-day. On dissection, the medulla oblongata was found pushed to one side, and the great cardiac nerve and the left nervus vagus surrounded with dark coloured knots. The development of the pulse varies with the quantity of blood, its loss by bleedings, evacuations, exudations, &c., &c.; and depends also on diseases of the heart, (its orifices and walls,) and on diseases of the uterus. At the beginning of inflammations and acute diseases, when the orifices of the heart are normal, the pulse is more or less full, and becomes smaller in the course of the disease. In abundant effusion the pulse is small, because, according to the author, the arteries, receiving a less powerful column of blood, contract the more. Thus, we see the pulse small only in peritonitis, and very acute enteritis. It is not so when the effusion takes place slowly, nor in acute diseases accompanied with great prostration; the degree of fulness retained by the pulse in these last is owing to the loss of contractility in the arteries. In effusions which take place slowly into the pericardium, the pulse becomes as small as it does in those which take place rapidly, which is to be ascribed to the loss of power of the muscles of the heart. A double pulse is observed only in the large arteries and in dangerous diseases. A sonorous pulse is met with in very various affections, it yields a peculiar sound to the ear, and a vibrating sensation to the finger, such as is felt when one touches the chord of an instrument in a state of vibration. The author attaches little importance in the distinctions of the pulse into hard, soft, full, contracted, &c.—*Oesterreichische Jahrbucher*, quoted in *Gazette Médicale de Paris*, March 1844.

SURGERY.

FOREIGN BODY IN THE BRONCHI OF AN INFANT.

An infant, two months old, was on the knee of its mother, who was engaged in cleaning French beans. Suddenly, it was seized with a convulsive cough, coming on in fits, with intervals of perfect calm. On examination, the face was found pale, with an expression of suffering; respiration difficult, and attended with lifting of the alæ of the nose. No fever, nor any abnormal sounds on auscultation. At the slightest motion a fit of suffocating cough came on, and the child leaned forward and opened its mouth as if to vomit. Various conjectures were advanced as to the nature of the case. Leeches, blisters, and emetics were had recourse to. It was thought a foreign body might be present, and the trachea was opened, but none was found. On examination of the body after death, there was found at the bifurcation of the bronchi, a bean surrounded with pus and false membrane. The lungs were hepatised.—*Clinique de Marseille*, quoted in *Annales de Thérapeutique*, April 1844.

CASE OF DISLOCATION ON THE DORSUM OF THE ILIUM, WITH FRACTURE OF THE FEMUR. BY T. O'CONNOR, Esq.

A man employed in repairing a windmill fell a distance of ten or twelve feet, struck a cross beam, and afterwards fell to the ground. The head of the femur was thrown upon the dorsum of the ilium, and the shaft of the bone was fractured *obliquely* at the junction of the middle with the superior third.

To the opinion that *dislocation* preceded the *fracture* of the femur, I am inclined by the following circumstances:—the position in which he is said to have fallen on the cross-beam; the contused appearance of the parts covering the tuberosity and ramus of the ischium and lower part of the groin; the ecchymosed state of the scrotum, and subsequent severe inflammation of the testicle of the affected side. The three latter circumstances, taken in connection with the first, are conclusive evidence to my mind that dislocation occurred in the first part of the descent, and that having been thrown, either on his back or side, on the pieces of wood which lay on the ground, fracture then ensued. The limb was shortened full four inches; the glutæi muscles were contracted and rigid, giving the appearance of a clenched fist beneath the integuments.

To reduce simple dislocation of the hip is an operation familiar to every mechanical surgeon, but this was a complication so formidable, that I will not affect to conceal my despair of success before I commenced the attempt at reduction. An extraordinary degree of extensive force must be employed to overcome the rigid state of contraction assumed by the muscles surrounding the hip, under their *novel state* of emancipation from their natural antagonist, the femur; or an equivalent to extraordinary extension must be substituted. As severe extension was here impracticable from the impediment offered by the fracture, pressure afforded the only chance of subduing muscular action; and with this view, a leather strap was passed tightly round the limb, over the insertion of the psoas magnus and iliacus internus, and above and around the trochanter major, and, of course, through the clefts of the nates, and finally connected to a roller, which surrounded the pelvis. This contrivance commanded the muscles about the hip, including the rotators outwards, leaving the vasti free, which, being in a state of active spasm, favoured the intention by affording resistance sufficient to bring down the head of the femur by the time the fracture was reduced. In consequence of the great obliquity of the fracture, I was obliged to employ M'Intire's splint, to keep up extension, although, I believe, in fractures of the upper third, the double inclined plane is generally preferred; the fracture of the fibula, treated on the ordinary principles, terminated favourably in three weeks or a month. The patient is now recovered, if I except a shortening of the limb to the extent of half an inch. Such is the history, and such the treatment of this case; if a similar one has already occured in practice, or appeared in print, I am not aware of it.—Abridged from *Prov. Med. and Surg. Journal*, May 8, 1844.

[It is much to be regretted that the details of this interesting and *unique* case are given in such an imperfect and unintelligible manner: it does not clearly appear *how* the reduction was effected, and certainly we know nothing of the force or the time required for its accomplishment. We know of no instance where reduction, under such a complication, was accomplished until the fracture had reunited. In Sir A. Cooper's *Treatise on Dislocations*, will be found a case of a similar dislocation; at the end of five weeks, the fractured bone appeared tolerably firm, and after the careful application of the pulleys, the head of the bone was returned into the socket in less than half an hour. (Page 49.) A less fortunate case is given by the same author. Mr Fergusson, in his *Practical Surgery*, narrates the following case:—"In one instance, a dislocation on the dorsum ilii, of a very palpable kind, was complicated with fracture in the lower end of the femur. The case was treated as one of fracture, and the dislocation was not detected for some considerable time. After the fragments had united, several attempts were made to replace the head of the bone, but to no purpose, and the shortening of the limb, between the dislocation and the fracture together, was such as to render the patient very miserable. It may be doubted whether, in this example, the dislocation could have been reduced at the first, in consequence of the injury in the lower part of the thigh; yet it would have been creditable to surgery had its nature not been overlooked, and had some reasonable attempt been made to remedy the aggravated evil." With Mr Fergusson, we still doubt very much, even after reading Mr O'Connor's case, whether, in such a complication, the reduction could be accomplished at the first.]

SUBCUTANEOUS INCISION OF THE LYMPHATICS LEADING TO THE GLANDS OF THE GROIN, A PREVENTATIVE OF BUBO. BY M. DIDAY.

The object of this operation is to prevent the syphilitic virus in cases of chancre from being conveyed to the lymphatic glands. The operation is simple, being performed on the same principles as all other subcutaneous incisions. A portion of the skin in the direction of the crural arch being pinched up, the surgeon plunges perpendicularly beneath it, in front of the glandular tumour, a straight tenotome with a sharp point, the cutting surface looking towards the deep parts. With this he makes an incision about three centimetres in length, and then, in withdrawing the instrument, he turns its cutting surface towards the integuments. In this operation, the lymphatics leading to the gland are divided before they enter it. It is only the superficial lymphatics that require division, as the deep glands of the groin do not suppurate in these cases, consequently it is unnecessary to make the incision very deep. The point of greatest delicacy, is to fix the period in the progress of the chancre, at which the incision should be practised with a view of prevention. If the chancre be cicatrising, or even in the course of healing at the time the glandular swelling has commenced, the surgeon is scarcely called on to interfere. But if it be in progress, if near the frænum, or if it suppurates freely, the operation is perfectly justifiable. The operation, like all those of the same class, is quite safe—though it may often fail from the difficulty already mentioned of distinguishing the period, when, the virus not being absorbed, it is not likely to be of use.—*Jour. de Lyon*, quoted in *Gazette Médicale de Paris*, March 9, 1844.

MIDWIFERY.

CASE OF BI-PARTITE VAGINA; WITH SPONTANEOUS RUPTURE OF THE SEPTUM, AND NATURAL DELIVERY. BY DR VINCHON.

In August 1842, I was called by a midwife to examine the genital organs of a primipara who had been in labour, from one evening to the next. The head, which was in the first position, was far down in the pelvis; and on a cursory examination, every thing gave promise of a speedy and favourable issue; but in carefully examining the vagina, a thick septum was detected, stretching vertically between the recto-vaginal partition, and the urethro-vaginal wall, beginning on a level with the posterior commissure of the urinary meatus, and terminating about two inches beneath it. The vagina was thus divided into a right and left canal. The mouth of the womb was quite free, because at the end of the septum, the vagina was single. The anormal condition just described gave rise to no inconvenience in sexual intercourse, as the penis could be introduced indiscriminately into one or other canal. The finger could be put in at one opening, carried round the septum, and brought out at the other.

As labour was advancing slowly, and the septum could at any time be prevented from impeding delivery by snipping it across with scissors, I satisfied myself by administering ergot of rye, and watching to see what nature would do. The head was neither directed to one side or the other by the septum, which by the force of the uterine contractions, was made to appear like a band across the head, in thickness similar to the umbilical cord. As the expulsive force increased, the band became thinner: from the absence of blood, and the effects of tension, it was rendered white like a ligament. Our intention now was to destroy this obstacle by cutting it through; but nature was more alert. All at once the membrane snapped across towards the anterior commissure of the vulva, yielding a noise resembling the slight crack of a whip, whereupon the head immediately came forth, and a healthy child was soon born. The portion of membrane attached to the posterior commissure was cut off with scissors.—*L'Expérience*, 11th April 1844.

STATISTICS OF MIDWIFERY.

Dr F. H. Ramsbotham has lately published in the *Medical Gazette* a series of Reports of the Cases delivered in the Eastern district of the Royal Maternity Charity under his superintendence. We present our readers with the most interesting portions of these Reports in a tabular form:—

				Presentation of the Twin Cases.						Sexes of Twin Cases.			Sex, Presentation, Complications, &c.																			
Year.	Number of Cases.	Twin Births.	Proportion of ditto.	Both Heads.	Head and Breech, or Inferior Extremities.	Both Breech, or Inferior Extremities.	Breech and Shoulder.	Head and Shoulder.	One with Head, the other transversely.	Both Males.	Both Females.	Different Sexes.	Males.	Females.	Some part of Head.	Of Face.	Breech, or Inferior Extremities.	Transverse Presentation.	Children born alive.	Still-born Children.	Implanted Placenta over Os Uteri.	Flooding before delivery, no implantation of Placenta.	Flooding after delivery.	Premature delivery induced.	Rupture of Uterus.	Died from Puerperal causes within a Month.	Puerperal Convulsions.	Delivered by Craniotomy.	Delivered by Forceps.	Placenta retained by Atony, or Irregular Contraction.	Complicated with Longitudinal Laceration.
1833	2619	22	1 in 119	6	15	1	...	...	...	9	6	7	1372	1269	2437	12	64	4	2556	85	2	5	9	3	...	16	5	3	...	18	...
1834	2447	26	1 in 94	13	9	1	1	...	2	7	8	11	1285	1188	2408	17	57	8	2408	79	1	5	6	2	...	10	2	...	4	10	...
1835	2311	16	1 in 144¼	8	4	3	1	...	...	3	6	7	1229	1098	2437	8	57	7	2241	86	3	7	5	1	...	7	4	1	3	8	...
1836	2268	22	1 in 103	4	15	2	...	1	...	6	9	7	1150	1142	2215	8	73	4	2202	90	8	3	4	2	...	8	1	...	2	8	...
1837	2140	26	1 in 82⅓	12	11	1	2	...	...	7	8	11	1085	1081	2113	10	40	13	2079	87	3	10	1	1	1	13	3	2	3	16	...
1838	2136	25	1 in 85½	11	9	5	...	...	...	5	8	12	1115	1046	2087	7	68	6	2076	85	1	6	4	1	2	9	...	...	3	11	...
1839	2079	18	1 in 115½	9	6	1	...	2	...	4	9	5	1082	1015	2044	...	48	5	2012	85	5	7	...	...	...	9	1	2	3	14	...
1840	2173	27	1 in 80½	11	14	2	...	...	...	11	7	9	1144	1056	2131	9	60	9	2120	80	10	10	...	...	...	8	1	4	6	9	...
1841	2167	27	1 in 80¼	...	8	1	...	...	...	13	10	4	1124	1070	2143	...	44	7	2107	87	1	10	...	1	1	6	...	5	...	16	...
1842	2090	20	1 in 104½	10	8	2	...	...	...	7	2	11	1076	1034	2068	...	40	2	2041	69	4	11	8	1	1	11	1	3	1	9	1
1843	2002	23	1 in 87	15	6	1	1	...	...	10	6	7	1037	988	1977	8	42	6	1953	72	1	6	8	...	1	11	...	4	7	7	...

FORENSIC MEDICINE.

Comparative Weight and Length of the Fœtus at the Full Time.

By Dr C. L. Elsbæsser of Wurtemberg.

In 1000 children he found

13	weighed from	4 to 5 pounds.	318	weighed from	7 to 8 pounds.
58	... ...	5 ... 6 ...	83	... ...	8 ... 9 ...
17	... ...	6 ... 7 ...	11	... ...	9 ... 10 ...

The average weight to be deduced from this is 4 lbs. 28 *loth* (or half ounces.) The lightest child weighed 4 lbs. 23 loth, and the heaviest, 9 lbs. 30 loth. [M. E.'s results differ somewhat from those of other authors; for example, Mde. Lachappelle met with one child at the full time weighing 3½ lbs. Chaussier, in 1601, found 3 weighing 2 lbs., 31 of 3 lbs., and 97 of 4 lbs., and he also observed others weighing 11, 16, and 17½ lbs. We think, however, with M. E., that these statements of Chaussier ought to be received with a due degree of caution; such cases certainly present very rare exceptions to the general rule.] M. E. found that

The average weight of 100 males,	was	7	lbs.	0¼	loth.
... ... females	...	6	...	21	...
The maximum weight of the males	...	9	...	30[1]	...
... ... females	...	10[2]	...	...	...
The minimum weight of the males	...	4	...	28	...
... ... females	...	4	...	19	...

Of 200 children

The length in	11	was from	15 to 16	inches.
... ...	99	...	16 ... 17	...
... ...	75	...	17 ... 18	...
... ...	14	...	18 ... 19	...
... ...	1	...	19 ... 20	...

The average length of 100 males	was	17	inches	3½ lines.
... ... females	...	16	...	8 ...

The maximum length of the males among 1000 children was	19	inches	17 lines.
The maximum among the females ...	19	...	1 ...
The minimum among the males ...	14	...	15 ...
The minimum among the females ...	14	...	9 ...

There is therefore a difference in length, as well as in weight, in favour of the male children.

M. E. has also directed his attention to the comparative lengths of the supra and infra-umbilical portions of the body. His observations disprove the statements so confidently put forth by some, that in the child born at the full-time, the umbilicus is the central point of the body.

In 200 children the length of the supra-umbilical portion of the body was

In the males 9 inches 2½ lines.
... females 9 ... 0 ...

The length of the infra-umbilical portion was

In the males 7 inches 9 lines.
... females 7 ... 7 ...

The difference of length between the two portions was

In the males 1 inch 3·40 lines.
females 1 ... 3·57 ...

In one case the infra-umbilical portion was 3 lines longer than the supra-umbilical; in another (*one only*) they were exactly equal. M. E. has also ascertained, that the distance from the ensiform process of the sternum to the umbilicus, is generally about one inch longer than from the umbilicus to the symphysis pubis. The author also concludes from his observations, that variations in length are much less than those in weight, the former being : : 15 : 20, but the latter : : 5 : 10.—*Henke's Zeitschrift für die Staats Arzneikünde*, No. 42, tom. iv. as quoted in *Northern Journal of Medicine* for June 1844.

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[1] In several cases. [2] In one case only.

[The Wurtemberg pound is equal to 1,0314 English avoirdupois, and the inch is equal to nearly ·94 of an English inch.]

PART FOURTH.

MEDICAL NEWS.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

Tuesday, March 12, 1844. EDWARD STANLEY, F.R.S., President.

On the Early Organization of Coagula and Mixed Fibrous Effusions under Certain Conditions of the System. By John Dalrymple.—The object of this paper was to confirm an observation published in the 23d volume of the Transactions of the Society, as to the organization of a clot of extravasated blood in a man dying of scurvy. Some doubt had been thrown upon the presumed nature of this clot and the character of its vessels by Mr Travers, in his recent work on Inflammation. A fresh example of a similar coagulum, injected by Mr Bush, of the Dreadnought Hospital Ship, gave the author an opportunity of examining its condition, and of proving its organic station.

In the knee-joint of a Lascar, who died of scurvy, Mr Bush found several clots of extravasated blood. Some floated loose in the fluid, others were attached to the synovial membrane of the capsule of the joint. The attached clots were minutely injected, but, independently of the vascularization, the fibrous materials of the blood (the white corpuscules) were found in various stages of development into tissue. There were normal white corpuscules, simple nucleated cells, becoming elongated and caudate; others more elongated, and often bifid, and, at last, the elongation into filament as the final conversion into tissue. All the cells were nucleated, and had nucleoli. Interspersed among these cells and filaments were innumerable perfect blood-discs, which gave the clot a dark red or nearly black colour. The loose coagula were, of course, non-vascular, yet the fibrous corpuscules had commenced a process of organization, and were converted into elongated or nucleated cells; these were equally interspersed with normal blood-discs, and equally darkly coloured.

Mr Lloyd had observed, in cases of diseased joints, the appearances described by Mr Dalrymple, which were dependent on the presence of newly formed vessels. The granulations of ulcers of joints had the same appearance under the microscope. He had also observed something very similar in connection with albuminous sarcoma, portions of which resembled new matter.

Mr Stanley, with respect to the possibility of a coagulum of blood, without previous change, becoming organized, referred to a preparation in Bartholomew's Hospital museum, which offered almost demonstrative evidence on the subject. A horse died, and the two external pudic veins were removed and laid open. Coagula were found adhering to the inside of the veins, by membranous bands and cords. The veins were otherwise healthy. On examining the interior of these coagula, they were found to consist of two membranous cysts, one within the other, and inside the smaller was a bony cyst. Two of the coagula were attached by a membranous cord.

Dr John Davy read a paper on the composition of the Meconium, and the lubricating matter of the new-born infant. The proportion of ingredients of the meconium were determined, and the results per cent. were as follow:—

23·6	mucus and epithelium scales,
7	cholesterine and margarine,
3·0	colouring and sapid matter of bile and oleine,
72·7	water.
100.0	

The lubricating matter of the new-born infant was found to be composed of:—

13·25	epithelium scales,
5·75	oleine,
3·15	margarine,
77·87	water.
100·00	

March 26.

Dr Gregory gave an account of a case of *Vitiligo Infantilis*, occurring in a child eighteen months old, and apparently dependent on dentition. No active measures were adopted, but as there was some debility, mild doses of carbonate of iron and rhubarb were administered.

Henry Hancock, Esq. detailed the case of a strong young man, aged 24, who injured the right ankle, by falling from the top of a vat in a brewery. Four days afterwards, when the swelling was reduced, the fibula was found fractured about three inches above the ankle, and the astragalus had been forced from without inwards, off the upper articulating surfaces of the os calcis, carrying with it the lower ends of the tibia and fibula, most probably resting upon the lesser process of the os calcis.

The integuments over the point of pressure sloughed away on the third day after the reduction, leaving the anterior part of the astragalus exposed in its proper position; and this was succeeded by considerable discharge for several days, in the course of which the internal calcaneo-scaphoid ligament sloughed and came away. The astragalus now being no longer restrained in that direction, gradually twisted round upon the calcis, until at length a large portion of its head protruded through the opening in the integuments; this prevented the wound from closing, as the bone could not be kept in its proper position, but had lost its articular cartilage, and was passing into a state of necrosis; the author subsequently, with a small saw, removed its head, to the extent of above three-quarters of an inch, after which the wound gradually healed, the parts became consolidated, and the man left the hospital cured, in July, just seven months after the accident. Ten months subsequently, he could walk as well as he did before the accident.

Sir George Lefevre read an interesting account of *a case of obstruction in the intestinal canal*, occurring in a delicate girl 12 years of age, and terminating favourably on the 9th day, by spontaneous vomiting of dark green fluid, to the amount of three pints.

April 9, 1844.

On the Oxalic Acid Diathesis. By Bence Jones, M.D.—The author observes that these crystals, (octahedral or oxalite of lime,) do not often occur in sufficient quantity to admit of analysis; but in October 1843, he examined the urine of a patient of Mr Cutler, and at the same time, three small renal calculi, which had been passed in July, August, and September. The urine under the microscope contained multitudes of octahedra, mixed with some crystals of uric acid; all the calculi consisted of oxalate of lime mixed with the uric acid. The author has also examined cases of acute rheumatism, and always found the presence of these octahedral crystals in the urine of patients labouring under this disease. This deposit is also not unusually found mixed with urate of ammonia in chronic rheumatism. In one case he was enabled to make some experiments on the effects of diet and exercise on the deposit of urate of ammonia, and in it he first observed that the octahedral crystals varied in quantity at different hours of the day.

The author thinks it would be easy to multiply examples of the connection between octahedral crystals and rheumatism: it indicates no variation in the treatment of the disease, but is interesting as giving additional support to the theory of Liebig.

Case of Aneurism of the External Iliac, in which a Ligature was applied to the Common Iliac Artery. By Richard Hey, Esq., F.R.C.S., Surgeon to the York County Hospital.—The patient, a gentleman aged 40, perceived, on the 10th of November, a small hard tumour in his left groin, above the centre of Poupart's ligament. Three days afterwards he had severe pain in the part, and on the following day the swelling increased in size, accompanied with pulsation. The tumour gradually enlarged, assumed at one part a conical shape, and the skin was tense and red. By moderate continued pressure the swelling could be reduced in size, but it resumed its former magnitude when the pressure was taken off. It was resolved, in consultation, to apply a ligature to the common iliac artery, which operation was performed by the author on December 3d. At this time the tumour measured six inches across, in a transverse direction, and projected three inches from the plane of the abdomen. At one point it was about an inch and a half from the navel. The incision was begun two inches and three-quarters above the navel, and three inches from the median line, and was carried six inches downwards, in a semicircular direction, with a prolongation of an inch and a half, in a straight line, outwardly. The layers of muscles and fascia transversalis having been divided to the whole extent of the incision, the peritoneum was gently separated from the parts beneath, and the common iliac artery was easily reached. A little time was occupied in scratching through the sheath with the point of the aneurism-needle, after which it was passed under the artery, from within outwards, armed with a double ligature of staymaker's silk, and the operation completed. The pulsation in the tumour ceased immediately after the artery was tied. The patient proceeded, on the whole, favourably after the operation, except that he was in great danger at one time from an accumulation of hardened fæces in the rectum. The tumour gradually subsided in size, and both legs were nearly of the same temperature, the affected limb being kept surrounded with flannel. A week after the operation, pulsation was felt in the anterior tibial artery. On the twenty-eighth day the ligature was found loose in the wound and removed. About the twentieth of January the patient was free from complaint, and was able to walk about.

Sir G. Lefevre inquired into the statistics of the operation in question, and referred to one which had been performed successfully by Dr Salaman, a Russian surgeon, and which he, (the speaker), had some years since transmitted to the Society. It had afterwards been published in the *Medical Gazette.* In this case, the most troublesome symptom after the operation was the occurrence of sphacelus of the integuments of the knee and ankle on the affected side.

The President referred to the case of Mr Guthrie, in which the common iliac was tied, for a tumour which was supposed to be aneurismal, but was found afterwards to be fungoid. Sir Philip Crampton had performed the operation; the case terminated fatally, by the occurrence of secondary hæmorrhage. Dr Mott's case was successful.

Mr Hey referred to an article in the first volume of the *Medical Gazette* for 1842–3, in which all the operations, whether successful or otherwise, were mentioned. Among them was the case of Dr Salaman. Sir Philip Crampton had attributed the failure of his operation to his having employed a cat-gut ligature, which he supposed had become absorbed, and had given rise to fatal hæmorrhage. Mr Liston had tied the common iliac for secondary hæmorrhage, but without success. Of the cases mentioned in the article referred to, only three or four were successful.

April 23, 1844.

On Paracentesis Thoracis, as a curative measure in Empyema and Inflammatory Hydrothorax. By Hamilton Roe, M.D.—His own experience had induced the author to depart from the generally received opinion of the uselessness of paracentesis thoracis. Of 39 cases recorded in British medical journals, between the years 1812 and 1842, in all of which paracentesis had been resorted to, he had found only that 11 died. Twenty-four cases had occurred to himself: and the chief object of the author was to prove, from the results he had obtained, that the operation was as free from danger as any other performed upon the human body; that most of the evil consequences supposed to attend it are far more imaginary than real; that it is commonly successful when employed at an early stage of either empyema or inflammatory hydrothorax, and the common cause of failure is to be found in the late period at which it is alone regarded as admissible.

With reference to the supposed dangers of the operation, the author had been unable to find one case on record in which mischievous results had occurred: in his own practice, no precaution had been employed to prevent the admission of air into the pleural cavity, but no bad results had followed. Although it was difficult to determine what length of time might, without danger, be allowed for the exhibition of internal remedies, yet, from his own experience, the author was induced to believe that in the general class of cases, three weeks is the longest period that can with safety be permitted to elapse before the withdrawal of the fluid. In none of his own cases had complete restoration of the lung resulted after it had been subjected to the pressure of pleuritic effusion for six weeks.

Twenty-four cases had occurred to the author, which had been treated by paracentesis thoracis; of these eighteen recovered, and six died. Nine of them were cases of purulent effusion, of which eight recovered, and one died. Thirteen were cases of inflammatory hydrothorax, of which nine recovered, and four died. One was a case of hydrothorax dependent upon cardiac disease, in which relief was afforded by the operation, and the remaining case was one of pneumothorax, having a fatal termination.

Dr C. J. B. Williams inquired the average age of the patients operated on by Dr Roe. The success of the operation depended so much upon age, that he was desirous of information on that point.

Dr Roe replied that few of his patients were under twenty, and that some of them were above thirty.

Dr Williams rose, and said he considered that it would be scarcely right to discuss the paper before the Society without being acquainted more fully with its contents, than the abstracts read by the secretary had enabled him to be. He would observe, however, that the result of Dr Roe's cases was to him altogether a matter of surprise, as the success was far beyond anything he had seen in his own practice, or recorded in that of others. If this success were confirmed by subsequent experience, the prospect would be most encouraging.

Mr Benjamin Phillips spoke from the result of his own experience, which extended over sixteen or seventeen cases, two of which only were purulent, the others being serous. He had seen, in several of the latter cases, the bulging out of the chest, and he therefore did not consider this sign as at all conclusive evidence of the effusion being purulent.

Mr Hewet was surprised at the result of Dr Roe's cases. He had seen several instances of effusion into the pleura which had been operated upon, and they had all died. The only case which had recovered was one in which nature had effected an external opening for the effused fluid.

Dr Kingston observed that Dr Roe's results could not be regarded as *opposed* to those of others, as they related to cases differently circumstanced. In those instances of pleuritic effusion in which paracentesis thoracis had been hitherto performed, it had not in general been resorted to until the constitution had been completely worn out by the long continuance of the disease; whereas the point which Dr Roe's twenty-four cases tended to establish was, that although hardly ever successful when postponed to this late period, it would succeed in the great majority of the cases in which it was required, if performed at a period when the constitution was better able to struggle with the disease, and bear up under the effects of the operation.

Mr Arnott had seen the bulging out of the intercostal spaces as frequently in cases of serous as purulent effusion into the chest. His experience proved that in cases of serous effusion, the entrance of the air into the chest did no harm, as it was soon absorbed, and gave rise to no bad symptoms.

Mr Stanley had operated on five cases of fluid in the chest; of these, three were collections of pus, two of serum. Three ended favourably, two fatally. With reference to the point at which paracentesis might be most properly and safely performed, it had been asserted by high authorities that the puncture should not be made lower than between the fourth and fifth ribs, and Laennec had recorded two cases in which the puncture was as low down only as between the sixth and seventh ribs; in one of these the diaphragm was wounded, and in the other the trocar passed into the kidney, and the patient died from extravasation of blood into the abdomen. Notwithstanding these results, however, he (Mr Stanley) had, in two of his cases, made the puncture between the eighth and ninth ribs; the proceeding was successful, and no bad consequences followed.

Tuesday, May 14, 1844.

Case of a Tumour in the right Hypochondrium, occurring after injury, from which a large quantity of Fluid, resembling Bile, was repeatedly withdrawn by the operation of Tapping. By William R. Barlow, Esq. of Writtle, Essex. Communicated by Edward Stanley, Esq., President.—The patient, a thatcher, aged 54, injured himself August 28, 1842, by lifting a heavy ladder, and complained of so much pain in the region of the liver, that the author apprehended a rupture of that organ; he was very faint, in a cold perspiration, and the pulse scarcely to be felt. He was bled and purged. On the second it was observed that the evacuations were white, and without bile, while the urine was dark, as in jaundice. As the pain in the region of the liver continued, the bleeding was repeated at different times. He was put upon mercurials, and had a blister applied over the right hypochondrium.

On the 15th of September, a swelling, of the size of a walnut, was perceived over the seat of the liver, and this gradually enlarged, until it had acquired, on the 9th of October, so large a size, and distressed him so much, from its distention, that it was considered proper to tap it. Seven quarts of fluid were drawn off, and he obtained instant relief. This fluid, from its colour and taste, appeared to be pure bile. The swelling gradually enlarged again, and it was necessary to repeat the operation of tapping on the 21st of the month, when six quarts and a half were withdrawn. Upon analysis, this fluid was found to consist almost entirely of pure bile. After this he was tapped four different times, when similar quantities of fluid were withdrawn. On the last occasion, which was on the 26th of November, only three pints escaped, and the swelling was not emptied, and he suffered considerable pain. On the following day bile appeared in his stools, and the urine was lighter coloured. The swelling was also much reduced in size, and it gradually subsided after this date.

On the 4th of February 1844, he was quite recovered, and able to walk eight or ten miles. The author concluded with shortly stating several of the most interesting questions connected with the case, and proposing them to the attention of the Society.

Mr Arnott had had no personal experience of cases like the one under discussion, but he did not consider that they were singular. Cases were recorded of great distention of the gall-bladder, in which tapping was resorted to as a curative measure. In some of these the patients perished from peritonitis, consequent upon the escape of the bile into the peritoneal cavity. Some of the patients had recovered.

Mr Stanley remarked that cases were recorded, both in the *Dublin Hospital Reports* and in the *Memoirs of the French Academy*, in which a distended gall-bladder had been mistaken for an abscess in that region, and operated upon by paracentesis. In Mr Barlow's case the swelling came on so directly after the receipt of the injury, that he (Mr Stanley) was inclined to think that one part of the biliary apparatus had been ruptured.

Dr Copland having had his attention recently directed to a case of rupture of the liver, had referred to all the cases of lesion on record. He had met with no one instance in which there had not been hemorrhage. The absence of this important diagnostic symptom was against the presumption that the liver had been really ruptured in Mr Barlow's case. In cases where there had been rupture of the gall-bladder, or where that viscus had been punctured for distention, bile had generally escaped into the peritoneum, and produced inflammation of a fatal kind. These facts were against the opinion that the gall-bladder was the seat of the enlargement.

Table of the Cases of Strangulated Hernia operated upon at St George's Hospital, in 1842 and 1843; to which have been added the details of some of the interesting Cases, and the After-death Examinations. By Prescott Hewitt, Esq., Curator of St George's Pathological Museum.—The author began by giving a statistical table of thirty-four cases operated upon for strangulated hernia. The result of these operations was twenty-five recoveries and nine deaths. The sac was opened in every case, and in six cases a portion of omentum was removed. Five of the cases recovered, and one died of disease of the brain a few hours after the operation. The author then gave, at full length, some of the cases which presented marked points of interest, and the after-death examinations. Among the cases may be noticed case 2, in which the gut, after having been strangulated for seven days, was, by the taxis, reduced with the sac—the symptoms of strangulation continued—the hernia fortunately re-appeared in the groin during a fit of vomiting; the operation was performed, and the patient was discharged from the hospital eighteen days afterwards. Reference was then made to four cases, in all of which the gut was enveloped by a complete sac, with a narrow neck, formed by the omentum. In relation to this interesting subject, some quotations were given from the works of Sir A. Cooper and Mr Lawrence, proving how very rarely these cases are met with.

The author then proceeded to make some detailed observations on these omental sacs, and on their formation, which he referred to three principal varieties. In three of the cases the hernial and omental sacs were more or less extensively united to each other. In the fourth case the omental sac was lying loose in the cavity of the hernial sac. Large quantities of adipose tissue were, he said, sometimes deposited in the folds of the omentum forming the second sac; and he referred here to some of the cases, in which the walls of the omental sac were more than an inch thick, as shown by the preparation exhibited at the meeting.

The neck of the omental sac, the author remarked, sometimes becomes the *sole* cause of the stricture; of this a well-marked example was given at full length. This circumstance was mentioned as an additional argument against the practice of reducing the hernia without opening the sac. The author concluded his observations upon these cases by adverting to the possibility of an alarming hemorrhage taking place into the cavity of the abdomen, after the division of the neck of these omental sacs.

After some remarks upon the relative frequency of the strangulation of femoral hernia, the numbers of which were given in the table, he made some observations on the opening of the sac, which he, on various accounts, strongly advocated in the majority of cases. The paper was concluded by some remarks on the removal of the omentum, and the various modes of applying ligatures in these cases. *(To be continued.)*

LETTER FROM DR WARDEN.—HIS AURISCOPE.

EDINBURGH, 21*st August* 1844.

DEAR SIR,—At this advanced period of the month, I cannot expect to obtain a prominent place in the well-supplied pages of your Journal, and it will oblige me if you can anywhere afford space for the subjoined cases illustrating the use of the prism for illuminating deep-seated parts affected with disease. In a former publication[1] I gave an outline of the subject alluded to, the mechanical details of my invention being reserved to appear in the Transactions of the Royal Scottish Society of Arts. As improved modifications of the speculum are daily proposed, and much interest exists connected with a more extended range of that instrument, I am desirous of exemplifying the advantage attending the employment of the prism in connection with the different forms of specula known to the profession. It is unnecessary for me to repeat the simple theory of total reflection applied to the auriscope described in a former number of your Journal. I need only observe that the mode of illumination there explained is equally available in all cases where specula can be employed, and that with convenience and effect greatly surpassing the methods ordinarily in use; while, by the employment of a second prism, supplementary to the first, the range of observation of the walls and recesses of the deep cavities is extended to a degree no otherways attainable. The speculum uteri et vaginæ which I have for sometime employed, and of which a particular description will appear in the *Edinburgh Philosophical Journal* for October, consists of two concentric metallic cylinders moveable within each other, from each of which a corresponding longitudinal section of half an inch, has been removed, and within these is contained a glass tube terminating in an obtuse cone or bulb, designed to facilitate the introduction of the instrument, and to admit a prism, to course along its interior undimmed by exhaled moisture, and so as to present a picture to the observer of every point, of the surface of the passage in succession, by a suitable change of the open aspect of the speculum.

CASE 1. A. H., a maidservant, aged 20. My attendance was required in consequence of acute abscess of the right labium obstructing the evacuation of urine, and attended with symptoms of general fever. This condition was speedily relieved by the ordinary means. It afterwards appeared that leucorrhœal discharge had existed for an uncertain time, and in consequence of the renewal of the abscess and suffering, a more particular examination was instituted, the result of which was the detection of pathological conditions not ordinarily recognised as marking such an affection, and the knowledge of which has not entered into the indications of treatment in such cases. In explanation it is to be observed, that by the employment of the speculum above described, not only do we throw every requisite supply of light upon the parts at the extremity of the tube, but every point of the entire walls of the cavity is made to display its picture upon the interior prism in all its reality of visible aspect, just in the same manner, and with the same truthfulness, as the pictures of the landscape in the *camera lucida*. By the use of this instrument in the case under notice, the os uteri was found turgid, rubescent, and giving issue to a profuse purulent discharge; and the examination of the walls of the vagina obtained through the medium of the second prism presented different diseased states, exemplifying a diversity of pathological conditions to which the mucous membrane is liable. In the neighbourhood of the os uteri, the inflammation was vesicular; in different portions of the parietes of the vagina there were patches of ulceration, of more and less vivid inflammation, and of warty vegetations, giving distinct indications for corresponding differences of topical treatment, and for which the speculum employed by me afforded all necessary facility upon the removal of the intervening glass tube. Within a fortnight these various morbid conditions of the mucous surface have been treated with appropriate dressings, and a case which otherwise must have undergone an uncertain management and duration, will immediately admit of complete cure.

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[1] Medical Gazette, May 24, 1844; and MONTHLY JOURNAL, 1844, p. 627.

Case 2. Mrs —— had for 18 months suffered from increasing deafness, which had not been alleviated by the employment of able professional attention, which her own family afforded. The history led me to conclude that the case was complicated and obstinate. Erythematic irritation of the auricle had occurred from time to time, attended with serous and filamentous discharge, and it was presumed that some organic impediment existed in the organs of hearing, aggravated by imperfect general health. I examined the ears by means of Kramer's speculum, which I commonly do before employing my own, and the observation thereby obtained readily led me to conclude that morbid growths occupied the passage of both ears. Upon resorting to the use of the prismatic auriscope, however, and directing a beam of light fully upon the suspected objects, I discovered them to be variegated with blood specks, flakes of lymph, and cerumen, and on attempting to wash their surface by means of a moistened camel hair pencil passed through the tube of the auriscope, their character was found to be immediately altered, and although tenacious and matted, each succeeding application of the brush left its impression, and I was speedily convinced that the obstructions consisted of compacted pellets of the products of chronic inflammation, and they were accordingly removed with immediate great benefit to hearing, and the remainder of the cure was easy, rapid, and complete.

Case 3. Mr G. S., aged 43, of bilious and leucophlegmatic habit, has suffered from impaired hearing, and disease in both ears, since his boyhood. The symptoms at the commencement are not distinctly remembered, but as deafness has been prevalent in his family, it is probable there was a morbid delicacy and predisposition affecting the organs in question. A marked and permanent aggravation of the dulness of hearing took place about 20 years ago, in the course of typhus fever. Constitutional and local treatment have been employed on various occasions, attended with slight and temporary improvement, but without preventing the progress of increasing loss of hearing. All remedies had been discontinued, as hopeless, for nearly two years, and hearing is produced only by bawling as to one on the house-top, the patient erecting the auricle with his hand to catch every vibration of sound. Upon examination with the auriscope, the diseased condition of the affected organs gave little or no room to expect benefit from local or other treatment. The auditory passages were cleansed by washing with the hair pencil, when the cuticular lining was found blanched and thickened, as by maceration, and flocculent portions were readily separated from the surface, which was without the natural conditions of sensibility and ceruminous secretion. Upon carrying inspection to the situation of the membrana tympani, which is effected with facility by means of the prismatic auriscope, I found, in the right ear, that the bottom of the passage was occupied by a spongy organized mass protruding from the chamber of the tympanum, while, on the left side, a crescent-formed fragment of the drum only remained, and that having a lardaceous appearance, as if quite disorganized, and in progress of decay. In such unfavourable circumstances, I was chary of local interference, and advised a residence by the sea side, or in the country, while pursuing a course of mineral and bitter tonics, and general corroborating regimen. An astringent infusion was directed to be used as a wash for the external ears twice a-day, with attention to position in its employment, so as to avoid its penetrating to, and prematurely stimulating the diseased and feebly organized parts. After the lapse of a fortnight, the patient reported his health much improved, and his hearing also bettered. A weak zinc lotion and ointment were employed during another interval of a fortnight, and yesterday, the 12th instant, I had opportunity of examining the ears, when interesting changes of their condition were displayed by the auriscope,—and at same time the patient expressed high satisfaction that the day before he had been able to join in the psalmody of the church, which he had previously been incapable of, such was the deficiency of hearing. The external passages of both ears, which at first had a general sodden and oozing surface, were now almost free from moisture, compact and regular in texture, and some ceruminous secretion showed itself in the right ear. The fungus seen at first examination, had shrunk and disappeared, and a pretty uniform dusky structure filled the cavity of the tympanum. In the left ear, the relict of the membrane of the tympanum, formerly seen opaque and unorganized, had lost a little of its superficial area, but what remained had a healthy pinky vascularity and translucence like red jelly. Moreover, the white head of the malleus was seen in situ and in connection with this important fragment, although its handle stood in bold outline in the dark chamber of the tympanum.

It is not to be expected that a case having such a history, and where essential parts of the auditory apparatus are deficient, should admit of any highly satisfactory issue in the way of cure. But it may be confidently anticipated that the same means which have been attended with such a measure of advantage, will be of yet greater service in process of time. A more vigilant inspection of the state of the parts affected will now be necessary, that the remedies adapted to their visibly more active condition may be employed, and their effects observed.

CASE 4. I owe to your kindness my opportunity of seeing this and other such interesting cases under your charge in the Royal Infirmary. J. C. aged 20, a native of Sutherland, of strongly marked scrofulous constitution, has had a running from both his ears since he was eight years of age, attended with growing dulness of hearing; but 20 months ago the deafness became complete, after exposure to cold, which induced the symptoms of acute inflammation, with profuse suppuration, and the discharge of hard lumps from the ears. Since that time all his communications with others have been carried on in writing, a channel of intelligence of which happily he has ready command, as well as a power of expression beyond common. In his descriptions he essayed, in no mean terms, *pingere sonum*—the rushing of the wind—the rustling of the leaves:—" and the murmuring main was heard, though scarcely heard to flow." Having come to Edinburgh in the hope of recovering his lost hearing, he was fondly persuaded that impressions belonging to the sentient nerves were referrible to, and indicative of some feeble power in the proper auditory function. A watch, however, applied to the auricle and to the pericranium, or held between the teeth, gives no sense of hearing, neither do the loudest tones of the voice attract any attention; but what is still more conclusive of the entire abolition of that sense, his own voice is unperceived as giving sound, although he speaks with strong intonation. After washing the auditory passages, which were covered with an abundant slimy secretion, the view of their interior by means of the auriscope gave ample exhibition of the extent of injury inflicted by continued disease. Not a vestige of either of the membrana tympani remained. The chamber of the right tympanum was partially occupied by pale granulations, which were seen immediately to become more vascular, and studded with bloody points on being lightly brushed with a hair pencil. The left tympanum was wholly empty, and its posterior wall was covered with a glairy pellicle, through which the *fenestra ovalis* was distinctly visible. An active seton had been sometime in operation in the nape, and had relieved the head of oppression and other uneasy feelings; I therefore ventured on an attempt to alter the diseased surfaces, and to check the discharge, but action habitually morbid, manifested itself, in fungous granulation, and no benefit resulted. This case, contrasted with the former, serves to exemplify the ruling influence which the state of the general health and constitution exercises over diseases of the ear, and the remedies employed: and they are sufficient to argue the important aid to be derived from the prismatic auriscope, for revealing the features of disease, for dispelling the pernicious mystery in which the affections of these important organs have been hitherto invested, and for bringing them within the pale and protection of enlightened science.

Case 5. Mr P., aged 45, has suffered from deafness for many years, resultng from chronic inflammation of the organs of hearing. In 1838, when iearing was all but completely lost, he repaired to Berlin to obtain advice of Dr Kramer, and placed himself under his care for a considerable period. That minent practitioner, according to his narrative of the case now before me, judged hat the right ear was incurably deaf, owing to paralysis of the auditory nerve nd other causes. The left ear alone, therefore, was subjected to treatment, n the opinion that the disease there consisted in and depended on stricture of he Eustachian tube, and an altered condition of the membranes therewith connected. According to this view, the measures employed were wholly aimed in ne direction, namely, to the quarter of the Eustachian tube: Dr Kramer at same time noticing as his reason for abstaining from interference by the more accessible and important route of the external ear, that thickening of the membrane of the tympanum as a consequence of chronic inflammation, was an affection by no means curable. His efforts were directed to the dilatation of the stricture by a strong stream of air injected upon it by the air-press and catheter; afterwards the use of the catgut bougie was attempted, but the irritation excited forbade its being persevered with. Through the daily use of the air-press, hearing was ultimately amended to the extent of the patient's hearing Dr Kramer's watch at the distance of from one to two inches from the ear. This slight improvement was regarded as a great benefit at the time, and Mr P., who has subsequently experienced a gradual amelioration of his hearing, is disposed to attribute this to the effect of the air-press as employed by Dr Kramer. In expectation of more complete recovery, Mr P. recently applied for my opinion of its probability, and the appearances presented by the auriscope enabled me to conclude that there was the fairest prospect of this in the remediable nature of the morbid state of the membrane of the tympanum. The appearances which I ascertained were these:—The lining of the auditory canal was healthy, but without ceruminous secretion. The membrane of the drum in about one half of its extent bore a perfect resemblance to the common integument of the body, being smooth, dense, and of uniform rosy vascularity; the remaining portion of the drum was of an opaque white colour, assuming a dark semi-translucency in its centre, not larger than a mustard seed. This darker spot had been mistaken by several observers for a perforation in the membrane, and this error had given occasion for a much less auspicious prognosis than the actual state of the case warranted. With the opportunity which is afforded by the prismatic auriscope of ascertaining the state of disease, and of watching and observing fully the effect of the remedies employed, I think that attempts may be safely made in this case to promote absorption in the opaque portions of the membrane, and to restore to a greater extent its natural elasticity and serviceableness for conveying the vibrations of sound.

These few cases must serve in the mean time to illustrate the service afforded by the prism in revealing fully the characters of darkly seated disease,—a sequel to them I defer to another opportunity. I am, dear Sir, &c.

Adam Warden, M.D.

To Dr Cormack.

ON THE MECHANISM OF VOMITING, BY MARSHALL HALL, M.D., ETC.

IN A NOTE TO DR ANDERSON.

Dear Sir,—The same accident which prevented me from seeing Dr Houston's paper in the Monthly Journal, prevented me from seeing your note.

I think the *violence* of the expiration at the close of the act of violent retching and vomiting, is greater than you imagine. But I may be mistaken. Par. 2. I suppose the act of vomiting and of expiration generally, to consist in the simultaneous action of the intercostal and abdominal mucles. If the diaphragm, during the inspiration which precedes the act of vomiting, really becomes a perfect plane, (which I much doubt,) it may certainly act as you say, and narrow the chest. But I think this very improbable. And certainly otherwise it must, by inducing, or tending to induce, inspiration, counteract the effort in which vomiting consists. Par. 3. In regard to par. 4, I must say that the words "these phenomena," relate to *both* parts of the phenomena, and not to that part of them only which you are pleased to consider as "parenthetical." A contraction of the diaphragm may draw air into the œsophagus, as in hiccup, but could not make it pass into the stomach; or it might draw food from the stomach into the œsophagus, but it could not induce its expulsion, and the abdominal muscles could not do so, because their action is pre-supposed to be "subtracted,"—see p. 182,—a circumstance which you appear to have overlooked. I am, Dear Sir, yours truly, MARSHALL HALL.

P.S.—I think you will perceive that the phenomena of vomiting remain as I have described them—phenomena of expiration *preceded* by inspiration.

MEDICAL REFORM.

In next Number we will present our readers with an exact and complete copy of the MEDICAL BILL which has been brought into the House of Commons by Sir James Graham. Upon that, or an early occasion, when we have had leisure to examine it minutely, and to weigh fully the bearings of its provisions, we propose to make a short commentary upon it. In the mean time, we entreat the profession to give their serious and candid consideration to the proposed measure, uninfluenced by the pleadings for or against it, which have been promulgated. It is lamentable to see the good of the Medical body endangered by the impassioned and often most absurd tirades which the Weekly Medical Journals are unceasingly issuing on the subject of Medical Reform.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

The twelfth anniversary of this Association was held at Northampton on Wednesday, August 7th, and Thursday, August 8th.

FIRST DAY.

About one o'clock, the members, to the number of about 150, assembled in the hall.

In consequence of the lamented death of the late president, Mr Hey, Dr Hastings, the president of the Council, took the chair. He addressed the meeting very suitably and ably. The topics were Mr Hey, the topography of Northampton, and the state of the Association.

Report of the Council.—The admissions of new members to the society, during the preceding twelve months, amount to 219; and the total number now on our lists, including honorary and honorary corresponding members, and the members of the Taunton Association, whose accession will be this day announced, is 784.

The gross amount of the receipts and expenditure is as follows:—

Receipts, ...	L.2161	12	0
Expenditure, ...	1660	9	6¾
Balance, ...	L.501	2	5¼

A volume of Transactions, containing the addresses and some of the valuable papers read at the last anniversary, has been issued to the members as heretofore. In the report read at the last anniversary it is stated, that "your council have every reason to believe they shall come to an arrangement with the proprietors to continue the *Provincial Medical Journal* at a small additional cost to the Association." This arrangement with the proprietors of the *Provincial Medical Journal* was entered into, and the journal duly forwarded as before. At the expiration of a few weeks, however, an application for a still further increase in the sum allotted for this purpose was made. The additional advance on the sum formerly paid was considered insufficient by the acting proprietor, not merely to afford any profit or adequate remuneration for his trouble, but to enable him to make those arrangements which were considered to be essential for conducting the journal in an efficient and satisfactory manner. According to the statements which the Council received, the proprietors of the journal appeared to derive no profit, and no sufficient remuneration was allowed to those who had the management of it; on the other hand, the Association, though contributing the greatest part, if not the whole of the funds necessary for carrying on the concern, had not, and could not have that entire control over it which was desirable, and which, under the circumstances, they had a right to expect. On the last proposals made by the acting proprietor being submitted to them early in January last, the Council resolved, that after the termination of the volume a weekly periodical should be published, devoted solely and expressly to the interests of the Association, and with reference to the same objects for which the Association was originally instituted. Accordingly, the Journal has since that period been issued directly under the control of the Council.

Schools of Preliminary Education for the Sons of Medical Men.—*Mr Martin* of Reigate then rose for the purpose of advocating the establishment of schools for the sons of members of the profession. He begged to suggest, for the consideration of the Association, in reference to the subject of the primary or preliminary education of their sons, that anything like a good scholastic education could scarcely be procured for them without incurring a heavy expense. Of late years, he observed, the principle of co-operation had been found to be effectual in carrying out plans of great public utility, where private enterprize and exertion would prove to be inefficient. As instances of this, the clergy and the navy, the former at Marlborough, and the latter at Camberwell, had, with the assistance of their dignataries, and their eminent and leading men, established schools on plans which would ensure for their boys the best possible education, at the cheapest rate of expense. A committee was appointed to collect information.

Mesmerism.—*Mr Newnham* of Farnham read a very lengthened paper on this much disputed question. He said that he had originally been much prejudiced against the supposed science of Magnetism, but after entering into a lengthened and profound research, the result of his inquiries was, that he now felt it impossible to oppose the science, and his earnest recommendation was that all whom he addressed would search and examine for themselves.

Mr Faircloth of Northampton read a case of puerperal convulsions.

Mr M'Ewen of Chester read a case of excision of the ulna for necrosis.

Mr Daniell of Newport Pagnell read a case of vaccination overcoming small-pox, (?) and a paper on the same subject by Mr Pittock of Silluge was read by the Secretary.

Retrospective Address on Anatomy and Physiology.—This extended and admirable address was read by Dr W. Budd of Bristol.

Dr Edward Charlton of Newcastle-upon-Tyne was appointed to deliver the Retrospective Address in Medicine at the Anniversary Meeting for 1845. And Mr T. P. Teale of Leeds the Retrospective Address on Surgery at the Anniversary Meeting for 1845."

SECOND DAY.

The members breakfasted at the Angel Hotel this morning, after which they proceeded to the Infirmary and Lunatic Asylum.

The Report of the Benevolent Committee was read. It exhibited a great amount of good done.

Retrospective Address in Medicine.—*Dr Cowan* of Reading then read his excellent address on this subject, which will duly appear in the next volume of Transactions.

Sir George Lefevre then rose and moved,—" That the thanks of this meeting be given to Dr Cowan for his excellent and acceptable address, and that he be requested to publish the same in the next volume of the Transactions of the Association."

The Journal of the Association.—In the absence of Dr Inglis of Halifax, *Dr Sheffield* moved,—" That for the extension of the projects of the Association with respect to their weekly Journal, and to enable them to continue the publication of their annual volume of Transactions, the subscriptions, instead of being, as at present established, one guinea, be henceforth one guinea and a half; and that a rule to that effect be forthwith enacted.

Mr Newnham, also as a matter of form, seconded the motion. It was not supported by any one.

On the motion of *Dr Budd* it was resolved,—" That a Committee be appointed to take into consideration whether it be expedient for the Association to continue the publication of a weekly medical periodical, and that such Committee be requested to report the result of their inquiry to the next anniversary meeting."

He subsequently nominated the following Committee:—Dr Budd, Bristol; Dr Toogood, Bridgewater; Dr Cowan, Reading; Mr Soden, Bath; Mr Estlin, Bristol; Mr Smith, Southam; Dr Black, Manchester; Mr Wickham, Winchester; Mr Newnham, Farnham; Dr Favell, Sheffield.

The cases and papers which were read have not yet been published.

Moved by *Dr Favell* of Sheffield, and seconded by *Dr Branson* of Sheffield:—" That the anniversary meeting for 1845 take place at Sheffield; and that Dr Corden Thompson be appointed president elect."

TO CORRESPONDENTS.

Lugol on Scrofula.—We are requested by Dr Ranking of Bury St Edmunds, to state, that the translation of this work is to be brought out by him, and not by Dr Cowan, as we stated at p. 712. Both gentlemen had announced translations; but the latter politely gave way to the former, finding that he had first published his intention.

Our Periscope, Society Reports, and Bibliographical Notices are now somewhat in arrears; and that we may be able to keep fully *au courant de jour* with medical science, it will be necessary to devote less space in our two next numbers to original matter than we generally do. This must be an apology to many esteemed contributors whose papers are now on our table.

The Glasgow Medico-Chirurgical Society have resolved to hold their meetings—not on the days we formerly announced (p. 735), but on the *second Tuesday of each month*, commencing in March and ending in October, at Eight P.M., in the Faculty Hall.

ERRATUM.

M. Parola, and not M. Pardu, is the author of the paper on Ergot of Rye given in last number, pp. 714–723.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations. By* JAMES SYME, Esq., *Professor of Clinical Surgery in the University of Edinburgh, and Surgeon to the Queen in Scotland.*

OBSTINATE STRICTURE OF THE URETHRA.

THE simple bougie is now, in this country at least, nearly the only means employed in treating strictures of the urethra; and in the great majority of cases, the success attending its employment leaves nothing to be desired with a view to increasing the facility, safety, or efficiency of the process. But every practitioner of experience must have met with exceptions from the ordinary rule; and on such occasions, instead of finding the contraction readily yield to the progressively increased size of the instruments introduced, could not avoid remarking a peculiar obstinacy of resistance. Along with this obstinacy of disposition, there is usually associated a proportional degree of irritability, which renders the treatment still more embarrassing, and also dangerous. For the pressure that is made in endeavouring to overcome the resistance, is very apt to occasion rigors, and a febrile paroxysm, which instead of passing away like the ordinary attacks of this kind attendant upon stricture, without any local or constitutional derangement, may be followed by swelling of the testicle, abscess of the perineum, or suppuration of the large joints. In the event of these unpleasant effects neither proving fatal, nor interrupting the treatment by exhausting patience, the surgeon may at length succeed in passing a moderate or full-sized instrument, but with little credit or satisfaction, since the strong tendency to contraction exposes the patient to a speedy relapse, and renders a frequent recourse to bougies necessary for his comfort so long as he lives. In proceeding to explain a mode of procedure for easily, safely, effectually, and permanently subduing this obstinate and irritable form of stricture, I may remark, that its ordinary seat is in the anterior part of the canal, where no difficulty attends the passing of instruments; and I think it right to add, that during the course of my hospital practice, now extending over fifteen years, I have never either in public or private found it necessary to puncture the bladder, from inability to pass the catheter, for retention of urine.

Case 1. I was requested by the late Dr Hay to take charge of a gentleman who had suffered long and severely from stricture of the urethra. He was between 40 and 50 years of age, of tall stature, and robust form. His complaint had existed twenty years, and during the earlier part of this period been partially alleviated by the introduction of bougies, but had then gradually increased, until at length the suffering occasioned by it was altogether intolerable. During both day and night, the calls to make water were extremely frequent, and excited the most violent expulsive efforts, which, aided by a milking-like manipulation of the penis, and pressure along the perineum, never produced any thing more than a scanty dribbling discharge. From the bladder being thus imperfectly emptied, the urine was constantly passing away insensibly, so as to keep the clothes wet, with what discomfort to the patient, may be more easily imagined than described. He was peculiarly susceptible in regard to atmospheric changes, and especially in damp weather suffered an aggravation of the symptoms. The urine, when collected on such occasions, was found to deposit large quantities of glairy mucus, from which indeed it was never quite free.

On examination, I found a tight stricture between five and six inches from the orifice of the urethra; and at the second or third attempt, succeeded in passing the smallest sized bougie fairly through it into the bladder. I then supposed that as usual there would not be any further difficulty in treating the case, and desired the patient to call upon me twice a-week, unless when the weather or any other circumstance should render a longer delay necessary. The progress, though not rapid, at length enabled me to pass No. 5 of my scale, equal to No. 2 of that in common use, when I found it impossible to make any advance. Indeed there was little encouragement to persevere in attempting this, as, notwithstanding the degree of dilatation that had been accomplished, there was not any appearance of relief from the symptoms of the disease.

I then proposed to confine the patient to bed, and keep a succession of catheters, gradually increased in size, in the bladder. He made no objection, and was greatly pleased to find, that instead of the irritation he expected, there was at once obtained complete relief from all his previous uneasy feelings. He read and wrote, ate and slept, without the least disturbance, drawing off the urine from time to time, and observing to his great satisfaction that the mucus had entirely disappeared. At the end of ten days I withdrew the full-sized silver catheter then employed, and before twenty-four hours had expired, found the complaint in every respect exactly as it had been before the process was commenced.

Some months after this I divided the stricture from within by means of a catheter containing a lancet blade, which was protruded from its sheath after the instrument had been passed through the seat of contraction, and kept in this expanded state while the catheter was withdrawn. A large bougie was immediately afterwards passed with perfect ease; and again hopes of success were entertained. But next day things were in precisely the same state they had been formerly.

Several months having elapsed without any change, it was resolved to combine the two last-mentioned modes of treatment. In the first place, I divided the stricture as before, but on both sides, by means of two lancet catheters, cutting right and left, and then introduced a full-sized catheter into the bladder, where it was retained for a week. For some time afterwards it seemed as if benefit had resulted from this procedure, and the patient, by frequently passing a bougie or catheter through the strictured part, was enabled to make water in a tolerably full stream. But this imperfect relief was of short duration, and by the end of two or three weeks, the frequent calls, laborious straining, and copious mucus, proclaimed that the stricture had regained its powers.

The patient now protesting that life was not desirable under the torment of his complaint, and entreating me to employ some efficient measure of remedy, no matter at what expense of pain or risk of danger, I resolved to divide the stricture by free external incision. With this view, a small staff, grooved on its convex side, having been introduced, I made an incision in the raphe of the perineum from the bulb to the anus, and then feeling for the stricture, which was easily recognised by its surrounding induration—ran the knife fairly through the whole extent of thickened texture. A full-sized catheter was substituted for the staff, and retained for a few days. The patient suffered little from the operation, but some uneasiness from irritation caused by the urine passing through the wound. When it closed he felt quite well, and continues to do so, though eighteen months have now elapsed. He has never required the bougie, and in every respect enjoys the most perfect health.

In this case, the obstinacy of resistance, and tendency to contract, occurred in an extreme degree. Indeed, the latter peculiarity was so strongly marked, that it suggested the idea of an adventitious elastic texture, or rather one possessing contractile properties similar to those of the middle coat of the arteries. It is plain that the most prolonged use of bougies would not have effected a cure. And the result of retaining catheters in the urethra, shows that this mode of treatment is not so effectual as it has been represented, since it only produced a temporary dilatation. But the most important lesson is to be drawn from the results of the different trials that were made of internal incision by lancet catheters. Additional space was thus at once obtained, and the passing of bougies was greatly facilitated, without any lasting difference being effected in the contractile power of the stricture. It hence appears that this mode of treatment affords no practical advantage, since, in the ordinary condition of stricture, bougies accomplish recovery on the easiest possible terms; and in its obstinate form, an internal incision does not prove sufficient to relieve the patient. The reason of this, I believe to be, that the obstinate stricture in question requires for its complete and permanent remedy, a thorough division of the firm texture which surrounds the contracted part of the canal. The following case tends to confirm this opinion.

Case 2. James Smith, aged 23, was admitted into the hospital under my care, on the 11th of December last. He stated that, five years before he had been affected with gonorrhœa, and six months after being so, in consequence, as was supposed, of hard work; had observed his left testicle to become swelled and painful. At the same time he remarked, that he could not empty his bladder without forcible straining, and that the stream of urine was diminished in size. He applied to a surgeon in town, under whose care he continued for six weeks; during the latter part of which period, bougies were introduced into the urethra every third day. He then thought himself sufficiently well to resume his occupation as a blacksmith. But in the course of six months the symptoms of stricture having returned, he again applied to the same surgeon, who passed bougies, without affording the relief that had been formerly experienced. The stricture gradually increased, and, on the 4th of September 1840, he was admitted into the hospital under the care of one of the ordinary surgeons. At this time, from what appears in the case book, and also from the patient's own statement, he seems to have suffered extreme difficulty in making water, sometimes causing complete retention of urine, and also great pain in the perineum. Two days after admission, the smallest-sized catheter was passed, and followed, it is said, by "great irritation about the neck of the bladder, and swelling of the left testicle." A fortnight afterwards incisions were made into the scrotum. In the beginning of October the introduction of catheters was resumed, and continued until the 29th of January 1841, instruments of various sizes from No. 1 to No. 5, being retained in the bladder as long as the patient could endure them, from half-an hour to forty-four hours at a time. At this date it is stated that "water does not seem to come in a more free stream." He left the hospital soon afterwards, and placed himself under the care of his original attendant, who introduced catheters of gradually increased size up to No. 14, though the stream of urine was still far from the natural fulness, and part of the water was discharged through two fistulous openings in the scrotum. He resumed his employment, and attempted to prevent the state of matters from getting worse, by occasionally introducing a short needle-shaped iron wire of his own construction into the urethra. Notwithstanding these efforts, the stricture contracted more and more, so that at length the urine was voided by drops, and the pain in his testicles as well as the perineum, not only rendered him unable to walk, but confined him to bed, and left no alternative except returning to the hospital.

On examination I found the perineum greatly swelled and hardened, the testicles much enlarged, with water in the tunica vaginalis of each, and various fistulous openings from the scrotum backwards. As it appeared that a collection of matter in the perineum had recently opened spontaneously by a small aperture, I made a free incision through the parietes of the cavity, and postponed farther investigation of the case until the effects of the free drain thus afforded might be ascertained. In the course of the following week no material improvement took place either in the state of the swelling, or the voiding of urine, which continued to escape by oozing out through the urethra and fistulous openings without the patient being conscious of its discharge. The urethra was then examined, and found to be contracted a little more than two inches from the orifice, so tightly that the smallest probe could not be passed through the stricture, which was distinctly recognised through the integuments by the induration surrounding it, and felt like a broad hard ring.

Feeling assured from the history of the case and the condition of the stricture, that the ordinary means of treatment could not lead to a satisfactory result, I resolved to divide the stricture by incision; and as the guidance of a director was not available for this purpose, I proceeded in the following manner. Standing on the right side of the patient, and seizing the stricture between the finger and thumb of my left hand, I directed the point of a sharp curved bistoury into the wide part of the urethra, immediately behind the contraction, and then pushed it forward through the dense texture. Having withdrawn the knife, I introduced a middle-sized silver catheter, merely feeling a slight resistance at the seat of stricture, and encountering no other obstruction. The bladder being emptied of a large quantity of water which it contained, a flexible catheter was substituted for the silver one, and retained for two days, to prevent any risk of extravasation. At the end of this time the puncture through the skin could hardly be detected, as it had healed by the first intention; the patient felt perfectly easy, making his water in a full stream, and a great improvement had taken place in the state of the perineum as well as neighbouring parts. A few days afterwards I tried to pass the catheter employed after the operation, but found that the stricture had so far returned, as only to admit a considerably smaller instrument. Bougies gradually increased in size were therefore employed as in ordinary cases, with the effect of fully dilating the contraction, and completing the removal of its consequences. The fistulous openings quickly closed; the swelling of the perineum, scrotum, and testicles disappeared; the water in one tunica vaginalis was absorbed; and that of the other when drawn off, did not return. In these circumstances the patient was dismissed, with injunctions to return occasionally to have a bougie passed. This he promised, but omitted to do; and upon calling after a considerable lapse of time, was found to be again suffering from the tendency of the urethra to contract.

This case has been related at length, because it affords a good example of stricture in its obstinate form, and well illustrates the insufficiency in such cases of the ordinary remedial means, and even of incision itself, if not carried completely through the indurated textures surrounding the contraction. It is plainly impossible to regulate the plunge of a sharp-pointed knife so precisely as to ensure this being effected; and, therefore, though I have sometimes succeeded perfectly in attaining the object in this way, the method pursued in the following case seems preferable.

Case 3. John Thomson, aged 15, was brought to me on the 18th of May by his father, who stated rather paradoxically, that he could not either keep or make his water. Upon more particular inquiry it appeared, that he had received a blow in the perineum from the kick of a horse two months before; and that about a week after suffering this injury, which was so severe as to confine him to bed, he had noticed the flow of his urine to be slower than usual, and attended with pain. These symptoms had gradually increased, until the water could be voided only by drops, and at the same time could not be retained, so that it was continually escaping, and wetting his clothes. I found a stricture of the urethra opposite the scrotum, so tight that it would not admit the smallest probe, and surrounded by a mass of thickened and indurated texture, in the form of a ring, nearly half an inch broad. After trying various instruments without success, I passed an exceedingly slender catgut bougie through the stricture, and then a succession of larger ones, until at length a metallic bougie of the smallest size could be introduced.

At the end of two months' patient treatment it was found that no more ground had been gained, and that though the patient had ceased to suffer from incontinence of urine, the symptoms in other respects remained without alleviation—the hard ring at the seat of stricture having suffered no diminution, and micturition being still painful, as well as frequent. On the 19th of July I introduced a small grooved director into the urethra, and, while it was steadily held by an assistant, compressing the indurated part of the canal between the fore-finger and thumb of my left hand—punctured the integuments with a narrow-bladed knife—directed its point into the groove immediately above the stricture—and then pushed the edge forward, until I distinctly felt the whole dense texture give way to it. A full-sized catheter was then passed without encountering the slightest impediment. The loss of blood did not exceed a drop or two, and the wound healed like the prick of a needle, so as to leave no trace of its existence; and at the end of two days, when the catheter was withdrawn, the patient felt in every respect perfectly well. Some days afterwards I examined the state of the canal, and found, that not only the catheter passed at the time of the operation, but even a larger one could be introduced without the smallest feeling of contraction. The boy was dismissed on the 29th, with instructions to return occasionally.

In conclusion, I beg it may be understood, that nothing can be farther from my intention, than to propose division of strictures by a cutting instrument, as in general preferable to the treatment by bougies. It is strictly to those cases which are found to resist a careful trial of the latter method that the operation should be limited. I feel quite sure, that not only much discomfort has been left unrelieved, but that many lives have been lost, from regarding all strictures of the urethra as equally amenable to the effect of dilatation, and may sum up my views of the subject by stating the following principles:—

1. Stricture of the urethra does not always yield to the use of bougies.
2. Attempts to overcome the resistance of obstinate strictures by the bougie, are apt to occasion serious disturbance, local as well as general.
3. Strictures of this obstinate nature are generally seated in the anterior part of the urethra, but may occur at any part of the canal liable to contraction, and are usually surrounded by a thickened mass of indurated texture.
4. Partial division of this ring, either from within or without, affords temporary facility in passing instruments, but no permanent relief from the complaint.
5. Complete division of the indurated and contracted part is the only effectual remedy.
6. The best way of effecting complete division, is to divide the contracted portion upon a director, by subcutaneous incision if the anterior part of the canal is concerned; and by free incision if the stricture be seated behind the scrotum.

POPLITEAL ANEURISM IN A CHILD.

David Dand, a stout healthy-looking boy, 9 years of age, was admitted on the 19th of February, recommended by Dr Lumgair of Largo, to undergo the operation for popliteal aneurism. The tumour extended from the lower part of the popliteal space under the bellies of the gastrocnemii muscles, so as to distend the calf of the leg. When examined by the hand, it was felt quite circumscribed, and pulsated distinctly. Under moderate compression, the swelling disappeared entirely, and quickly returned when the pressure was withdrawn. The same effects resulted from temporary compression of the femoral artery. It was stated that the disease had been first noticed about two years before, soon after the boy had completed his seventh year, and that it had occasioned little uneasiness, but that the swelling had latterly enlarged with increasing rapidity, so as to excite alarm for the consequences of its progress if allowed to proceed unchecked.

I tied the femoral artery on the 24th; no unpleasant symptom was caused by the operation, immediately after which the pulsation ceased, and the swelling could no longer be felt. In its place, however, there was soon to be perceived a solid tumour of coagulum, which gradually increased in firmness, and diminished in size. The ligature came away on the 4th of March, (the 14th day), and the patient was dismissed on the 21st.

The age of this patient at first led my colleagues and myself to entertain doubts as to the disease being truly an aneurism, similar to what is met with in adults. But the diagnostic characters were so well marked, that we decided on tying the artery; and the effects of the operation most satisfactorily demonstrated that the nature of the case was really no other than it had appeared to be. Sir A. Cooper has stated,[1] that the earliest age at which he had met with aneurism was eleven years, the patient being a boy in St Thomas's Hospital, and the artery affected the anterior tibial. A gentleman who attended my lectures last winter, (Dr Peach), told me that he had witnessed the amputation of a child's thigh for popliteal aneurism of very large size; and another gentleman whom I had the pleasure of regarding as a pupil at the same time, (Dr Croft), mentioned that he had seen in the museum of an English provincial hospital the preparation of a carotid aneurism, for which the artery had been tied without success in a child of seven or eight years of age. But I am not acquainted with any instance of aneurism being remedied by the modern operation at so early a period of life as in the case just related.

It may here be not improper to notice the attempt which has lately been made to introduce compression of the femoral artery instead of its ligature for the treatment of aneurism. In the early part of the present century, before the principles on which arteries may be tied with safety had been established, while ligatures of reserve, rolls of plaster, and broad tapes were employed for the purpose, and no harm was anticipated from extensively detaching the vessel to be tied from its neighbouring connections, various instruments were contrived for pressing upon the femoral artery[2] without impeding circulation through the limb, and repeatedly employed with success in cases of popliteal aneurism. But the suffering endured by the patients was so severe and prolonged, during the tedious process of recovery thus accomplished, that we find surgeons in whose hands this method had proved successful, preferring to it the Hunterian process, with all its early imperfections, or even encountering the horrors of the old operation, rather than inflict the permanent agony of the screw. The sensation caused by continued pressure over the vessel, however carefully applied, if sufficiently forcible to prove effectual, is of a peculiarly intolerable kind, and must be endured for a space of time, not to be reckoned by minutes, or even hours, but by days, weeks, or months. Ugly consequences also occasionally occur, in the shape of ulcerations, and sloughs, or swelling of the limb, and there can be little doubt, that if the method in question were generally adopted, so as to bring under its influence the variety of constitutions which are prone to resent such treatment, there would not be wanting even fatal results to strengthen the objections that might be urged against its adoption. It should be kept in view, that the field for resorting to the use of pressure is limited to the femoral artery, as the superior extremity is liable only to traumatic aneurisms, which are best treated by double ligature of the wounded vessel, while the carotid, subclavian, and iliac arteries, are placed beyond the reach of compression. But the femoral artery may be tied with so much ease, so little suffering, and such perfect safety, that the laborious, distressing, and tedious procedure, which has lately been brought again into notice by a surgeon of Dublin, will probably soon return to the obscurity in which it has very properly been allowed to slumber. For my own part, having tied the femoral artery thirteen times for aneurism, and never met with the slightest symptom of an unpleasant nature from the operation, I shall certainly not deviate from the line of practice hitherto pursued.

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[1] Lectures on Surgery, vol. ii. p. 41.

[2] Boyer, Traité de Malad. Chirurg., vol. ii. p. 234.

BURSAL SWELLING OF THE WRIST AND PALM OF THE HAND.

There are few subjects of surgical practice that have occasioned more trouble and disappointment than morbid distension of the bursa, which accompanies the flexor tendons of the fore-arm, in their course under the annular ligament of the wrist, towards the fingers. The resistance of the ligament prevents any enlargement of the bursa where lying under it; but the wrist and palm become distended, so as to occasion an unseemly swelling, and weakness of the hand. The fluid effused into the cavity is generally associated with numerous small cartilaginous-looking bodies, of a lozenge or lenticular figure.

In treating this form of ganglion, the means generally employed prove very unsatisfactory in their effect. Blisters and pressure are altogether unavailing. Punctures either heal without producing any improvement, or remain open, so as to occasion obstinate sinuses. Incisions of larger extent, caustics, and setons, have all been carefully employed with very uncertain benefit, and frequently great suffering; indeed I have known the continued irritation so induced prove fatal. As the treatment of similar derangements in other parts of the body is not attended with such troublesome consequences, the question naturally presents itself, what local peculiarity is concerned in causing the obstinacy of this particular case? The reply suggested by what has fallen within my observation is, that the constriction caused by the annular ligament produces the effect in question, by preventing the portion of bursal sac corresponding to it and the subjacent tendons from undergoing the healing process. Impressed with this conviction, I tried the following experiment, the complete success of which encourages me to hope that the method pursued will be found to afford an effectual remedy for a complaint which has hitherto proved so troublesome.

Janet Preston, aged 20, was admitted on the 13th of February, complaining of pain and weakness in her left hand. The wrist and palm of the hand were much swelled, but not discoloured, and pressure on these parts caused distinct fluctuation, with the jarring sensation that characterises effusion into the bursal sheaths. She stated that pain had been first felt about two years before, and that for the last twelve months she had had hardly any use of the hand, in consequence of the swelling, and weakness attending it.

I made a free incision from the wrist into the palm of the hand, dividing the annular ligament. This gave vent to a quantity of glairy fluid, with many small flat cartilaginous-looking bodies, and exposed to view the flexor tendons, separated and surrounded by thickened bursal membrane. The cavity was filled with dry lint, supported by a bandage moderately compressing the hand and wrist. In the subsequent treatment care was taken to prevent protrusion of the tendons, by drawing the edges of the wound together, and applying a compress over the seat of the annular ligament. Not the slightest disagreeable symptom followed the operation, and three days after it the patient was able to sew, which she had been prevented from doing for many months previously. In the course of a few weeks the wound healed, and the limb was in every respect perfectly sound.

(To be continued.)

Article II.—*On Cancer in the Thorax.* By Alexander Kilgour, M.D., *one of the Physicians to the Aberdeen Infirmary.*

The diagnosis of cancer, whether of the hard (scirrhous) or the more frequent soft (encephaloid) form, within the chest, is still allowed by the few writers who have noticed this disease, to be one of considerable difficulty. The best remarks which have been published on it, whether in this country or on the continent, are those of Dr William Stokes, in his valuable work on *Diseases of the Chest*, (Dublin, 1837) in which he says, "as yet almost nothing has been done in establishing the diagnosis of this disease;" and his continuation of the same subject in the *Dublin Medical Journal*, (No. lxii.) In the same periodical, (No. lxxiii) there is a very excellent paper by Mr MacDonell, on the diagnosis of empyema, in which he gives a *resumé* of the cases of cancer of the lungs hitherto published, and affords some useful suggestions on the diagnosis of empyema, cancer, and aneurism of the thorax.* In those cases where carcinoma of an external organ, or of any part of the surface of the body, is followed by an affection of the lungs, (as in the cases recorded by Cruveilhier and some others) the inference that the same morbid condition exists within the chest is legitimate; but the following cases exhibit to us the circumstance, that, when the disease commences *within* the chest, it frequently manifests itself also so far externally, as to afford us a strong opinion as to the character of the internal affection. I do not pretend to remove the difficulties which still exist in regard to the diagnosis of this disease; but something may be gleaned from the following cases, confirmatory of the observations of other writers.

Case 1. *Cancerous mass in the Mediastinum—Tumour above the Clavicle of the same side.*—William Duguid, aged 47, engine-maker, was admitted into St Luke's ward, 15th October 1840, complaining of pain in the right side of the chest, cough, and expectoration, and also of some swellings on the right side of the neck. The pain in the chest is described as being dull and heavy, and felt only when lying in bed, or coughing. The expectoration, which is confined to the morning, is of a thin watery mucus mixed with a few clots of blood, and which, he says, he feels as if coming from his chest in the vicinity of the right mamma. The right side of the chest is considerably fallen in at the upper part, and this side yields a dull sound on percussion over its whole extent. Respiration is inaudible, except in the upper clavicular region, where a slight murmur is heard, and in the axillary and supra-scapular, there is a mucous râle with a slight gurgling. On the left side of the chest percussion gives a loud clear sound, and the respiration is puerile. Sounds of the heart normal. He complains of severe pain in the swellings of the neck, shooting across his forehead, and preventing him from sleeping. Pulse 68; tongue white; bowels costive. He states that in the end of March (about seven months ago) he began to be affected with a pain in his chest, accompanied by cough and much general weakness; that he went to the country in July, and that soon after this the swelling appeared near the angle of the jaw, and extended downwards to the clavicle; that he improved in his health in the country, but on his return was exposed to cold and wet, and a fortnight after coming home, the spitting returned, but only in the mornings. He had a sister and brother who died of consumption. On the 22d of October the pain and swelling had increased in the neck, and his breathing, from the compression of the trachea, was much impeded. He perspired very profusely during the night. Thinking the hospital was disagreeing with him, he went home, where I occasionally visited him. He got no sleep, perspired much, and his breathing became very sonorous, and attended with a constant loud wheeze. The pain in the neck was very much complained of. He died on the 16th November.

Sectio cadaveris, 14 *hours after death.*—The right side of the chest con-

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[1] For a full abstract of Mr MacDonnell's paper, vide Monthly Journal for May 1844, p. 397.

tracted, or rather fallen in, especially near to the sternum; and giving a perfectly dull sound along the whole margin of the sternum, and backwards to near the angle of the ribs, where it again becomes somewhat clearer. The whole of the left side of the chest afforded an unusually loud sound on percussion. When the sternum was removed, the left lung was turned out readily, being entirely free from adhesions. It was emphysematous, with several elevations from dilated or ruptured air-cells, especially in its upper lobe. The right lung was scarcely visible. Its margin was very thin, and the body of the lung was pressed towards the ribs by a mass of a tumour, which extended from the diaphragm along the spine to the clavicle, and communicated under it with a swelling, of fully the size of an egg, in the right side of the neck. The lung, when removed, which was accomplished with some difficulty from the numerous adhesions, felt hard and solid; throughout its greater part it cut almost like cartilage, and towards its root was incorporated with the tumour. At the spine it was still more like cartilage under the knife. The cut surface was mottled white and black, and had the appearance of decided granite hepatization. In other parts there was friability of the lung, with an escape of a reddish purulent fluid. The tumour, when dissected from the spine, was found to be composed of glandular-like bodies of a reddish colour and a soft feel, but could not be readily broken down by pressure. When cut open, the internal surfaces exhibited a thickish brain-like matter. The reddish glandular bodies became softer and whiter, the nearer the bronchus. The mass of disease extended up the trachea, embracing it closely, to near the larynx, and at the fore and lower part of the trachea, it was nearly two inches thick. It also encircled the right and left bronchus. Some of the bronchial glands, of a dark blue colour, were found of a large size, and one of them containing a calcareous mass of the size of a nut. The lining membrane of the trachea and bronchi was red and thickened. No tubercles in the lungs. Tumour of the side of the neck of a firm texture, and scirrhous appearance. All other organs were healthy.

In this case there was no difficulty, but from the circumstances of the near relatives dying, as was said, of phthisis. The existence of the swelling, however, in the neck, added to the dulness on percussion of the right side, led to the knowledge of what the disease was. It could only be mistaken for strumous swelling of a gland, along with tubercular disease of the lung; but, supposing the character of the external swelling not of itself conclusive, strumous enlargement of the glands of the neck almost never occurs in those of so advanced life as this patient.

Case 2. *Pulsating cancer—Cancerous mass surrounding the Aorta, and extending into the Heart—Cancer in the Lung—Tumour in the Neck.*—Alexander Scott, aged 28, labourer, of a florid complexion, and healthy habit of body, admitted 29th January 1844, complaining of pain in the chest, hoarseness, and difficulty of breathing. The pain commenced about six weeks ago; it is of a shooting character, and not confined to any particular part of his chest. About six months ago he was seized with a violent fit of coughing, which returned at intervals for a fortnight, and at the time he spat some blood. This was succeeded by hoarseness, and difficulty of breathing, which latter becomes aggravated during the night. Exposure to cold air brings on a short dry cough, which, however, does not increase the pain in his chest. No expectoration; appetite indifferent. Tongue soft, and covered with a brownish fur in the centre. Bowels twice opened daily. Skin soft; pulse 100, regular. The left side of the chest is evidently increased in size to the eye, but on measurement both sides are found equal. The left is more rounded than the right, and is immobile in respiration. Percussion gives a dull sound over the whole of the left side, and a loud clear one on the right. Puerile respiration is heard over the whole of the right side, but on the left, the only sound is a slight bronchial respiration heard along the scapular region. Sounds of the heart hurried and obscure, and attended with a slight bellows sound.

(The treatment ordered was a succession of blisters over the left side, and the following pills continued until his mouth had been touched for some time, *R. Massæ pil. hydrarg. gr.xij; pulv. scillæ, gr.ix.; ext. conii, gr.xviii. M. et divid. in pil. xii. Capiat j ter in dies.*)

Feb. 25. The dulness on percussion is as before. The heart appears more under the sternum or to the right side, and a slight bellows murmur accompanies its first sound. General health good. Mouth has been very sore.

March 6. To-day there is a considerable pulsation above the left nipple, and especially between the second and third ribs, where it also feels very superficial. The *bruit* with the first sound of the heart is more distinct under the right clavicle than the left, whilst below the left mamma it is very feeble. No respiratory sounds either before or behind on the left side, but the respiration is loud over the right. The pulse is very small in both arms, but more so in the left than the right. There is a swelled gland immediately above the clavicle of the left side. Complains of weakness.

The pills to be omitted. Has had six blisters on the side. To have half a bottle of porter daily, and the following mixture,—*R. Infus. quassiæ lb.j; acid. nitrici dilu*[illegible]*ʒss. M. capiat cyathum vinosum ter in dies.*

March 13. Under the clavicle of the left side there is a little clearer sound, and respiration of a bronchial character can be heard here, and also posteriorly in the scapular region. The pulsation felt betwixt the second and third ribs is not felt so distinctly over the heart itself. The *bruit* is loudest at the upper part of the sternum; and over the heart, and especially near its apex, there is a rubbing or creaking sound. The impulse of the heart is almost none. The artery in the right arm is small and irregular; in the left, from wrist to arm pit it is scarcely to be felt. Complains of the difficulty of breathing, and of pain at times shooting from before to behind in the situation of the aorta. Complains still of weakness. Lies on his left side.

April 3. The dyspnœa continues, amounting sometimes to orthopnœa. Is more hoarse, with some wheezing in his breathing, and difficulty, about the middle of the œsophagus, of swallowing. Two days ago spat a little coagulated blood. No cough. Pulsation less distinct between the ribs, and the heart's action is scarcely to be felt. Bellows murmur continues. Pulse as before in both wrists and in the carotids. Tongue clean. Bowels regular. Slight puffiness under the eyes. Gets an anodyne at bed-time, and has a belladonna plaster over the left side of the chest.

April 6. Since yesterday the orthopnœa has been constant, and attended with a loud mucous râle. Expectorates a little white watery mucus. The dyspnœa becomes at times aggravated in the form of a paroxysm. Complains of a feeling of obstruction behind the upper piece of the sternum. Sat at the fire-side all last night.

He died next morning.

Sectio cadaveris, 34 hours after death.—Dulness on percussion of left side as before. On laying open the abdomen the stomach was seen of very large size, lying across it, and descending nearly as low as the pelvis. Liver healthy, but enlarged, and also extending much below its usual boundaries. All the other organs were natural except the mesentery, which contained some small encephaloid tubercles. The sternum was carefully raised. The right lung was perfectly healthy, and had no adhesions. In the situation of the pericardium, and extending from the diaphragm up to the left clavicle, a solid mass was found of an irregular nodulated surface, and composed of solid bodies, of the size of a walnut and upwards, all run or united together. Below the lower lobe of the left lung and the ribs, there were about two pints of a yellow serous fluid. The upper lobe of the lung was united, below and behind, to the spine by a whitish brain-like matter, but tolerably firm. The whole of the surface of this lung lying towards the pericardium was inseparably united to that membrane. On cutting across the aorta below the diaphragm, and removing the heart and vessels, the left lung, trachea, and œsophagus, it was found, on making a section of the left lung from apex to base, that it contained large masses of a firm white substance in its tissue, the latter being easily distinguishable by its colour, but solid. The pericardium was closely united to the heart, which was of small size, and an encephaloid substance involved the whole of the base of that organ, curtailing much the size of the auricles, the left one being scarcely larger than a pigeon's egg, and nodulated internally from the pressure inwards of numerous small tumours. Several of these had also advanced into the substance of the left ventricle. The aorta and pulmonary artery within the pericardium were imbedded in a similar mass. The arch of the aorta was surrounded equally in all directions by a firm almost cartilaginous white substance, and the same covered the vessel as far as the diaphragm. The coats of the artery were attenuated, but not otherwise diseased. The left carotid and subclavian were pervious, but of very small size, and with coats nearly as thin as those of veins. The arteria innominata was of nearly the natural size. The trachea was also imbedded in the same mass, especially at its bifurcation, where it was much diminished in calibre. Some of the bronchial glands, of their usual dark blue colour, were found in the diseased mass, which here adhered closely to the spine.

This case puzzled me a good deal. There was clearly hepatization of the lung, but I was convinced there was a tumour besides; and the question came to be, is it an aneurismal or a cancerous one? In noticing this case in one of my clinical lectures, I read the preceding case of Scott, pointing out the resemblances of the two, and especially that of the tumour in the neck above the clavicle. The existence of this swelling in the neck ought to have decided at once the nature of the case; and I would never again hesitate in coming to the conclusion of there being cancerous formations in the chest, where such was present, with the dulness and other signs belonging to the chest itself. But the extent to which the circulation was affected, inclined me to the belief of the existence of aneurism. The *bruit*, its situation, the diminished impulse of the heart, the state of the pulse in the left arm and neck, and the pulsation between the ribs, so much more perceptible than that of the heart itself, all told of aneurism. Still the pulsation in the situation of the aorta was not equal to that of an aneurism, at the same time that it did not feel like a communicated pulsation, and was greater than that from small vessels in a tumour. I certainly did not conceive its being from the aorta passing through the centre of the tumour. There is one circumstance in this case as well as in the preceding, deserving of notice, in reference to the original seat of these encephaloid masses. Some of the bronchial glands were in both found in their natural state, and this leads to the inference, that the disease does not, as some have thought, commence in these bodies, for if so, the whole of these would most likely be affected before the disease would attack other structures. I believe that the serous membrane in the chest is the part first affected, and this I say chiefly from having several times found in cases of the larger encephaloid tubercle in the liver, and in encephaloid disease in the kidneys, and in the mesentery, that the disease, if at all present in the chest, was in the pleura, and had not dipped into the texture of the lungs, thus reversing what is the usual mode of advancement of the same disease in the parenchymatous organs of the abdomen.

CASE 3. *Tumour in the right side, apparently in the Liver—Paraplegia—Cerebriform disease in the Abdomen and Chest.*—George Cruickshank was admitted into St Andrew's ward, under Dr Keith, in December 1842, where he remained until his death, 29th June 1843, with paraplegia. He had been in the hospital some time before with a swelling in his right side, in the situation of the right lobe of the liver. The swelling was tense, elastic, and gave an indistinct sense of fluctuation, leading to the suspicion of being an abscess, or if not, a large fungoid tumour of the liver. He had a sallow, wasted aspect, but was never jaundiced. Under the use of iodine internally and externally, the swelling appeared to become less, and at the time of his second entrance into the hospital, it was not nearly so prominent as before. The digestive organs were natural, as were the urinary, until the coming on of the paraplegia, when he was affected with incontinence of urine. Bed sores and ulceration of the penis and scrotum, from the dribbling of the urine, were the immediate cause of his death.

Sectio cadaveris.—The liver was as low in the abdomen as the navel, and also extended over to the spleen. At first view it appeared to be much enlarged, but on turning it out, it was found not to be increased in size, but merely altered in its position by a tumour situated between it and the ribs, and extending backwards to the spine, and which was firmly connected both with the ribs and the vertebræ. It had pushed the liver across and downwards, and the kidney of the right side was also lifted out of its position, and carried forwards on the spine by the tumour placed behind it, and which extended to the spine of the ilium. The diaphragm was involved in the same disease; and above it, and in the pleura of the right side, was the other end of the tumour, which had displaced the lung, pressing it upwards. The lung of this side was covered with soft lymph on its lower and internal surfaces, whilst its costal surface was closely adherent to the ribs. The left lung and the heart were healthy. The tumour could not be separated from the spine or ribs, without breaking or tearing it. It was composed of brain-like matter, mottled here and there with blood. In the ends and in the centre, it had more of the red appearance of fungus hæmatodes. On washing it under a stream of water, a quantity of irregular shreddy membrane was left. The spine and cord were not examined; but I have no doubt the latter would have been found either in a softened state, or with a portion of this tumour pressing upon it, which had likely commenced in a vertebra, and extended outwards under the liver, and also upwards between the crura of the diaphragm.

CASE 4. *Paraplegia—Tumour over the Ribs—Cough—Cancer of the Pleura, Ribs, and Spine.*—Margaret Catto, aged 17, factory girl, had twice an appearance of the menses in the winter of 1843, but catching cold, they ceased, and she became affected with a frequent cough. Some time after, she became paralytic in the lower half of the body, and required the use of the catheter up to her death in the end of August of the same year. About the time of the coming on of the paraplegia, a rounded, dull, hard tumour, of the size of the half of the closed fist, had appeared on the right side of the chest, on the fifth, sixth, and seventh ribs, and about equally distant from the sternum and spine. It had no pain on pressure. She had dulness on percussion, but not uniformly, over this side.

Sectio cadaveris.—On laying open the abdomen, the parts appeared all in their natural situation, except the liver, which was pressed downwards by something in the chest. A little serum was found in the abdomen. On removing the sternum, a great extent of disease came into view, in the form of white firm tumours, from the size of a pea up nearly to an orange. They were attached to the upper surface of the diaphragm and the pleura pulmonalis and costalis of the right side chiefly, but some of smaller size were found attached to the left lung. These masses were most extensive at the root of the lung and the spine. The tumour which had appeared externally in the side was one of these, which had in its progress caused absorption of part of the sixth and seventh ribs, and also involved a part of the fifth one. The spine was not examined.

In these two briefly reported cases, we have the same symptoms

—the existence of a paraplegia and an external tumour on the side of the chest. These two symptoms existing together, and accompanied, (as they most likely would be, and were in these cases,) with disturbance of the function of the lungs, ought to suggest the nature of the disease. We certainly sometimes see paraplegia an attendant of aneurism of the thoracic or abdominal aorta; but if, in such a case, there be a tumour perceptible externally in any part of the chest or abdomen, it will be attended with the usual signs of aneurism.

Case 5. *Pulsating tumour of the side of the Chest and Neck, (osteosarcoma?)—Bellows murmur over it, as also over the Heart.*—William Simpson, aged 70, wood-sawyer, of a fresh and healthy appearance, admitted into St Luke's ward 30th April, complaining of a painful tumour in the neck. The pain he describes as gnawing and constant, but aggravated by pressure, or any motion communicated to the part, as in coughing. The tumour is situated on the anterior and lateral aspect of the right side of the neck, extending in length from a line on a level with the upper border of the thyroid gland, to about half an inch below the clavicle, and across, from the middle line of the neck to a little beyond the outer border of the sterno-mastoid muscle. In the former direction it measures four inches, and in the latter three and a half. The superficial veins in the vicinity of the tumour are considerably enlarged. Its upper half is smooth, and has a firm, osseous feel; but the lower half, to which the pain is entirely confined, is irregular, and knotted on the surface, and feels softer and more yielding. Towards its upper part it is moveable from side to side, but below it is not so. On laying the hand over it, a pulsatory movement is felt, more especially over its lower and inner part, where the skin has a reddish hue, but no unusual sounds can be heard over it, nor over the carotid and subclavian arteries as they emerge from its borders. Pulse regular: appetite good. He states that, about three years ago, after severe pain at the part for months, the tumour began, springing, as he thought, from the inner extremity of the collar bone, and growing in a short time to the size of a thimble. On its appearance the pain entirely left, and the tumour remained stationary, giving him no inconvenience until about three months ago, when, in consequence of a sudden jerk of his shoulder, it became painful, and began to increase in size, which it has continued to do up to the present time. He states, that the hard part of the tumour was the first that appeared, and that the lower painful part is of recent growth. His health has not in the least suffered.

This case, of which the above is the history as taken down by the clinical clerk, was sent into the hospital as one of aneurism, and this opinion might be the more readily believed, from the next report which is entered in the case book, on June 13th, after repeated and more careful examination: "At the lower part the pulsation has become much more distinct both to the finger and to the eye. There is also a bellows sound heard when the stethoscope is applied to this part, and there is a bellows sound accompanying the first sound of the heart." And again, (the patient having been sent out of hospital, when for a day he attempted his work, but was obliged to return, on account of pain in his shoulder, and cough,) on August 12th, the report is: "The tumour is enlarging chiefly downwards. It now measures five and a half inches in length by four and a half across. Pulsation is very distinct at the lower part, which is tense and elastic. A bellows murmur is also heard over this part, but this sound is louder over the sternum close to the tumour, and over the subclavian and carotid arteries of that side it is very loud, and corresponds with the first sound of the heart. Over the heart itself, whose impulse is very feeble, it is not so distinct as before."

Notwithstanding these signs, however, I retain the opinion which I first formed from the history of the case, that it is one of osteosarcoma, and that the pulsation is partly dependent upon its situation over the arteria innominata, and partly upon the vessels contained in it. In addition, the irregular surface of the tumour itself, the varicose veins on and around it, and clearness on percussion, with a not abnormal respiratory murmur on this side of the chest, lead me to this diagnosis. But the situation of the tumour, the doubt in several minds that might attend the diagnosis, and still more the questionable propriety of interfering, in any situation, with such a tumour as I suppose it to be, would entirely forbid any operation for its removal. It is given here as an example of what I have previously upheld in this Journal,—that abnormal sounds of the heart and large vessels lead us to nothing *precise* as to the seat of the disease.

The above cases will so far corroborate the following paragraphs in Dr Stokes's valuable paper referred to in the beginning of this communication.

" That cancerous tumours of the mediastinum generally co-exist either with degeneration of the lung, or isolated tubercles in its substance.

"That they are to be recognised more by the signs of the tumour, than by those of disease of the lung.

" That dysphagia, tracheal stridor, feebleness of one pulse, difference of respiratory murmur from pressure on the bronchial tube, or displacement of the diaphragm, and dilatation of the heart, may occur in this form of the disease.

" That a cancerous tumour (and osteosarcoma, as in the case above, is often merely cancer in a quiescent state) may exhibit pulsation with or without bellows murmur, but that pulsation is not always attendant on it.

" That though the previous existence of external cancer may assist in diagnosis, yet that the disease may be all through internal, (this I think will be rare), or the visceral may precede the external cancer.

" That the feebleness of pulsation, connected with the extent of dulness, may assist in distinguishing the disease from aneurism.

" That the following symptoms are important as indicative of this disease:—pain of a continued kind; a varicose state of the veins in the neck, thorax, and abdomen; œdema of one extremity; rapid formation of *external tumours of a cancerous character*; expectoration similar in appearance to currant jelly, (this I have not particularly observed); resistance of symptoms to ordinary treatment.

"That though none of the physical signs of this disease are, separately considered, peculiar to it, yet that ***their combination and modes of succession*** are not seen in any other affection of the lung."

PART SECOND.

REVIEWS.

A Bill for the Better Regulation of Medical Practice throughout the United Kingdom. Prepared and brought in by Sir James Graham *and* Mr Manners Sutton. *Ordered by the House of Commons to be printed, August* 7, 1844; *8th Victoria.* [Note.—The words printed in *italics* are proposed to be inserted in the Committee.]

Before offering to our readers a short commentary on the Medical Reform Bill, we place before them an exact copy of it, that its spirit and provisions may be the better apprehended.

"1.—*Preamble.—Repeal of Statutes,* 3d *Henry VIII., c.* 11; *5th Henry VIII., c.* 6.; 14*th and* 15*th Henry VIII., c.* 5; 32*d Henry VIII., c.* 40; 32*d Henry VIII., c.* 42; 34*th and* 35*th Henry VIII., c.* 8; 1*st Mary, sess.* 2, *c.* 9; 6*th and* 7*th William III., c.* 4; 10*th George I., c.* 20; 18*th George II., c.* 15; 55*th George III., c.* 194; 6*th George IV., c.* 50, *s.* 2.—Whereas it is for the good of all her Majesty's subjects that the knowledge of physic and surgery should be promoted, and that means should be afforded whereby those who have been examined and found skilful by competent authority may be known from ignorant and unskilful pretenders to the same knowledge: And whereas the laws now in force concerning the profession of physic and surgery require to be amended; be it enacted, by the Queen's most excellent Majesty, by and with the advice and consent of the lords spiritual and temporal, and commons, in this present Parliament assembled, and by the authority of the same, that an Act passed in the third year of the reign of King Henry the Eighth, intituled, 'An Act for the appointing of Physicians and Surgeons;' and also another Act passed in the fifth year of the same reign, intituled, 'An Act concerning Surgeons to be discharged of Quests and other Things;' and also another Act, passed in the session of Parliament holden in the fourteenth and fifteenth years of the same reign, intituled, 'The Privileges and Authority of Physicians in London;' and also two Acts passed in the thirty-second year of the same reign, respectively intituled, 'For Physicians and their Privilege,' and 'For Barbers and Surgeons;' and also another Act, passed in the session of Parliament holden in the thirty-third and thirty-fourth years of the same reign, intituled, 'A Bill that Persons being no common Surgeons may minister Medicines, notwithstanding the Statute;' and another Act passed in the first year of the reign of Queen Mary, intituled, 'An Act touching the Corporation of Physicians in London;' and also an Act passed in the session of Parliament holden in the sixth and seventh years of the reign of King William the Third, intituled 'An

Act for exempting Apothecaries from serving the offices of Constable, Scavenger, and other Parish and Ward Offices, and from serving on Juries;' and so much of every other Act as continues the last-recited Act; and also an Act passed in the tenth year of the reign of King George the First, intituled, 'An Act for the better viewing, searching, and examining of all Drugs, Medicines, Waters, Oils, Compositions, used or to be used for Medicines, in all places where the same shall be exposed for Sale or kept for that purpose, within the City of London and Suburbs thereof, or within Seven Miles circuit of the said City;' and so much of another Act, passed in the eighteenth year of the reign of King George the Second, intituled, 'An Act for making the Surgeons of London and the Barbers of London two separate and distinct corporations,' as does not relate to the separation of the said corporations, or to the master, governors, and commonalty of the mystery of barbers of London: and also so much of an Act passed in the fifty-fifth year of the reign of King George the Third, intituled, 'An act for better regulating the Practice of Apothecaries throughout England and Wales,' as relates to the examination of apothecaries, or to the qualifications of persons intending to be examined or to qualify themselves under that Act to practise as an apothecary, or to the fees to be paid by apothecaries for the certificate of the court of examiners, or to the penalties for practising as an apothecary without having obtained such certificate; and also so much of an Act passed in the sixth year of the reign of King George the Fourth, as enacts, that all members and licentiates of the Royal College of Physicians in London actually practising; all surgeons being members of the Royal Colleges of Surgeons in London, Edinburgh, or Dublin, and actually practising; all apothecaries certified by the court of examiners of the Apothecaries' Company, and actually practising, shall be freed and exempt from being returned, and from serving upon any juries or inquests whatsoever, and shall not be inserted in the lists to be prepared by virtue of that Act; and also so much of any Act or Charter granted before the *passing of this Act* as prohibits any person from practising physic or surgery in any place without such license as is mentioned in such Act or Charter respectively, or as imposes any restriction on the practice of physic or surgery other than is contained in this Act, shall be repealed and annulled.

"2. *Council of Health and Medical Education.*—And be it enacted, that a council shall be established, which shall be styled 'The Council of Health and Medical Education;' and that one of her Majesty's principal secretaries of state shall be a member of the said council, in right of his office as secretary of state; and that the regius professor of medicine in the University of Oxford, the regius professor of physic in the University of Cambridge, the regius professor of physic in the University of Dublin, the regius professor of clinical surgery in the University of Edinburgh, and the regius professor of surgery in the University of Glasgow, shall be members of the said council in right of their several professorships; and that the other members of the said council shall be *one* physician and *one* surgeon, to be chosen by the Colleges of Physicians and Surgeons of England respectively; *one* physician and *one* surgeon, to be chosen by the Colleges of Physicians and Surgeons of Scotland respectively; *one* physician and *one* surgeon to be chosen by the Colleges of Physicians and Surgeons of Ireland respectively; and *six* other persons whom her Majesty, with the advice of her Privy Council, shall deem fit to be members of the said council.

"3. *Appointment of First Council.*—Provided always, and be it enacted, that it shall be lawful for her Majesty, with the advice of her Privy Council, to appoint all the members of the first council of health and medical education, other than those who will be members thereof in right of their several offices; and that at the end of the *third* and each of the *two* next following years after the first constitution of the said council, *one* physician and *one* surgeon of those first appointed on behalf of the said several Colleges of Physicians and Surgeons, shall go out of office, in such order as her Majesty, with the advice of her Privy Council, shall direct.

"4. *Tenure of Office by Official Members and Nominees of the Crown.*—And be it enacted, that those members of the said council who are members in right of their several offices, shall continue to be members thereof so long as they hold the same offices respectively, and no longer, and the *six* members of the said council, appointed as aforesaid by her Majesty, with the advice of her Privy Council, shall continue to be members of the said council during her Majesty's pleasure, and upon every vacancy among the last-mentioned members of the said council, and their successors, it shall be lawful for her Majesty, with the advice of her Privy Council, to appoint another fit person to be a member of the said council during her Majesty's pleasure.

" 5. *Tenure of Office by Members chosen by the Colleges.*—And be it enacted, that upon every vacancy among the members of the said council appointed on behalf of the said several colleges of physicians or surgeons, and their successors, the Royal College of Physicians or Surgeons of England, Scotland, or Ireland, as the case may be, shall appoint another physician or surgeon, as the case may be, to supply such vacancy, subject to the approval of her Majesty; and every member of the council so chosen shall be entitled to be a member of the said council for *three* years, and shall then go out of office, but may forthwith be re-chosen, subject to her Majesty's approval; provided always, that no president, vice-president, or examiner of any of the said colleges, shall be qualified to be so appointed.

" 6. *Details of Election to be settled by the several Colleges.*—And be it enacted, that the manner of choosing the last-mentioned members of the said council shall be determined in each case by orders or bye-laws, to be made from time to time by the said several colleges, subject to the approval of the council of health and medical education.

" 7. *Substitutes in cases of Extraordinary Vacancies.*—Provided always, and be it enacted, that it shall be lawful for any member of the said council appointed by her Majesty, or chosen by any of the said colleges, at any time to resign his office, or for her Majesty at any time, with the advice of her Privy Council, to dismiss any such member of the said council for notorious misbehaviour or unfitness, and upon any vacancy in the said council by death, resignation, or dismissal, another member of the council shall be appointed in the same manner, and for the same term as the member by whom the vacancy shall have been made.

" 8. *Secretaries, Clerks, and Messengers.*—And be it enacted, that it shall be lawful for the said council, with the approval of one of her Majesty's principal secretaries of state, to appoint a principal secretary for the said council, and also local secretaries for Scotland and Ireland, and so many clerks, and messengers, as the said secretary of state shall deem necessary, and also with the like approval to remove at their pleasure, any of the said secretaries, clerks, and messengers, and appoint others in their room.

" 9. *Salaries and Expenses.*—And be it enacted that there shall be paid to the members of the said council, and to the said secretaries, clerks, and messengers, such salaries as shall be from time to time allowed by the Lord High Treasurer or commissioners of her Majesty's treasury, who may also allow such reasonable travelling expenses which may have been incurred by any member of the said council, or any secretary, clerk, or messenger, in the performance of his duties under this act, and other such reasonable expenses of putting this act into execution, as the said Lord High Treasurer or commissioners of her Majesty's treasury shall think fit.

" 10. *President.*—And be it enacted that the said Secretary of State shall be president of the said council, and shall be empowered from time to time to nominate one of the members of the council appointed as aforesaid by her Majesty to be vice-president of the council, and to act as president in his absence, and at every meeting of the council in the absence of the president and vice-president, some other member, to be chosen by the council from the members then present, shall be empowered to act as president.

" 11. *Time and Place of Meeting.*—And be it enacted, that the said council shall be holden in such places and at such times as the Secretary of State from time to time shall appoint; and that all acts of the council shall be decided by the votes of the majority of the members present at any meeting, the whole number not being less than *seven;* and at all such meetings, the president for the time being shall have a second or casting vote in all cases of equality of votes.

"12. *Minutes of Proceedings.*—And be it enacted, that minutes of the proceedings at all meetings of the council shall be fairly drawn up and entered in books, to be kept for that purpose; and such minutes shall be at all reasonable times open to the inspection of any person or committee appointed for the purpose of inspecting them by any of the said universities or colleges.

"13. *Register to be Kept and Published.*—And be it enacted, that a register shall be kept and published from time to time, under the direction of the said council, of all persons who shall have been examined, and shall have received, and shall exhibit before the said council letters testimonial, as hereinafter mentioned, of their qualification to practise as a physician, or as a surgeon, or as a licentiate in medicine and surgery; for which registry the council shall be entitled to have from the person requiring to be registered, a fee of *five pounds* in the case of a physician or surgeon, and a fee of *two pounds* in the case of a licentiate, which fees shall be applied towards defraying the expenses of this Act; and every person whose name shall be so registered, who shall be desirous that his name shall be continued in the published register, shall in the month of *January* in every year, send to the said council his name and place of abode, with the date of his testimonials, and the council shall verify the returns so made to them by comparison with the register kept by them, and shall forthwith cause the name of all persons duly registered and so returned to them to be published in alphabetical order in their several classes, with their several places of abode and dates of their testimonials.

"14. *Licentiates in Medicine and Surgery.*—And be it enacted, that no person, except such graduates in medicine and such other legal practitioners as are hereinafter mentioned, shall be entitled to be registered by the council as a licentiate in medicine and surgery, unless he shall have attained the age of *twenty-one* years, and shall have been examined by the colleges hereinafter named; that is to say, if in England, examined by the Royal College of Physicians of England, assisted by the court of examiners of the Apothecaries' Company, and also examined by the Royal Colleges of Surgeons of England; and if in Scotland, examined by the Royal Colleges of Physicians and Surgeons of Scotland; and if in Ireland, examined by the Royal Colleges of Physicians and Surgeons in Ireland; and in every case shall have received letters testimonial from each of the bodies by which he shall have been examined, of his being duly qualified to practise as such licentiate.

"15. *Surgeons.*—And be it enacted, that no person except such legal practitioners as are hereinafter mentioned, shall be entitled to be registered by the council as a surgeon unless he shall have attained the age of *twenty-five* years, and shall have been examined by one of the Royal Colleges of Surgeons of England, Scotland, or Ireland, or the Royal College of Physicians and Surgeons of Glasgow, after such proof as shall be satisfactory to the examining college that he has applied himself to surgical studies during at least *five* years, and shall have received letters testimonial from the examining college of his being duly qualified to practise as a Surgeon.

"16. *Physicians.*—And be it enacted that no person except such legal practitioners as are hereafter mentioned shall be entitled to be registered by the council as a physician unless he shall have attained the age of *twenty-six* years, and shall have graduated in medicine in some university of the United Kingdom of Great Britain and Ireland, or, subject to the restriction hereinafter contained, in some foreign university, and shall also have been examined by one of the Royal Colleges of Physicians of England, Scotland, or Ireland, or by the Royal College of Physicians and Surgeons of Glasgow, after such proof as shall be satisfactory to the examining college that he has applied himself to medical studies during at least five years, or if he is not a graduate in medicine of any such university, unless he shall have attained the age of forty years, and shall have been examined by the Royal College of Physicians of England; and in each case shall have received letters testimonial from the examining college of his being duly qualified to practise as a physician; and no person shall be entitled to be received for examination for the purpose of being so registered as a physician upon a foreign degree in medicine, unless the Royal College of Physicians of England, Scotland, or Ireland, shall give him a special certificate, to be laid before and approved by the council of health and medical education, that they have made inquiry into the manner in which such degree was conferred, and have ascertained that it has been granted after residence within the precincts of the same university during at least *one year*, and after due examination and upon satisfactory certificates of previous study.

" 17. *Physicians and Surgeons may be Registered on Double Testimonials.*—And be it enacted, that it shall be lawful for the same person, if possessed of the necessary testimonials, to be registered as both physician and surgeon, and for a registered physician, or a person applying to be registered as a physician, to offer himself for examination as a licentiate in surgery by one of the said Royal Colleges of Surgeons, and for a registered surgeon, or a person applying to be registered as a surgeon, to offer himself for examination as a licentiate in medicine by one of the said Royal Colleges of Physicians, assisted in England by the court of examiners of the Apothecaries' Company; and every such physician or surgeon shall be entitled to be also registered upon the testimonials granted to him upon such additional examination, in such form and manner as shall be determined by the said council.

" 18. *Physicians and Surgeons to belong to a Royal College of the country in which they practise.*—And be it enacted, that every person registered after examination, as a physician or surgeon under this Act, shall be admitted as an associate of the Royal College of Physicians, or as a fellow of the Royal College of Surgeons, from which he shall have received his letters testimonial as physician or surgeon, or if he shall have received the said testimonials from the Royal College of Physicians and Surgeons of Glasgow, then as a fellow of the last-mentioned royal college; and every such physician and surgeon who shall afterwards remove from that part of the United Kingdom in which he obtained his letters testimonial, shall be required, if he shall practise as a physician or surgeon in any other part of the said United Kingdom, to enrol himself as an associate of the Royal College of Physicians, or as a fellow of the Royal College of Surgeons, of that part of the United Kingdom to which he shall so remove, for the purpose of practising there, according to the nature of his testimonials, and in each case shall be entitled to be so admitted without farther examination, and on payment of the like fees of admission, and on complying with the same conditions as are required of other persons who have passed their examinations for the purpose of being admitted associates or fellows of the said colleges respectively.

" 19. *Qualifications and Fees.*—And be it enacted, that the said several colleges shall, from time to time, when required by the said council, prepare and lay before the said council a scheme or schemes of the course of study and particulars of the examination to be gone through by all persons applying to such colleges respectively for letters testimonial as physician, or surgeon, or licentiate, and of the fees to be taken for examination and admission into the said several colleges respectively; and the said council shall be empowered to make from time to time such changes in any of the schemes so laid before them as to the said council shall seem expedient; and the said council shall endeavour to procure, as far as is practicable and convenient, that the qualifications and fees for the said testimonials shall be uniform, according to the nature thereof, throughout the said United Kingdom.

" 20. *Restriction on Medical Degrees.*—And be it enacted, that after the *passing of this Act* it shall not be lawful for any university of the said United Kingdom to confer any degree in the faculty of medicine upon any person, unless he shall have been matriculated in the same university, and shall have duly attended the courses of public lectures prescribed by the same university to students in medicine within the precincts of the same university, or of some medical school recognised by and in connection with the same university, during at least *two* years next before the granting of such degree, and shall have been examined at some time before granting such degree by the proper examiners of such university, and found by them to possess competent skill and knowledge of medicine, and of the sciences connected therewith, and of the English and Latin languages at least; and every diploma or certificate of a medical degree passed by any such university after the *passing of this Act*, shall set forth distinctly the time which has elapsed since the matriculation of the person to whom such degree shall be granted, and the time during which, and place at which he shall have actually studied as aforesaid, and the fact that he has passed such examination as last aforesaid.

" 21. *Declaration concerning Bachelors of Medicine at the age of twenty-two.*—And be it declared and enacted, that it shall be lawful for any university of the said United Kingdom to grant the degree of bachelor in the faculty of medicine, subject to the restrictions hereinbefore contained concerning medical degrees, to any student of the same university who shall have attained the age of *twenty-two* years; and that every such graduate in the faculty of medicine, being also examined and having received letters testimonial of his qualification in the manner hereinbefore prescribed in the case of licentiates in medicine and surgery, or examined and furnished with the like letters testimonial by the Royal College of Physicians and Surgeons in Glasgow, if the said degree shall have been granted by the university of Glasgow, shall be entitled to be registered by the said council of health and medical education as a licentiate in medicine and surgery, subject to such general regulations as shall be made by the said council concerning the registry of licentiates.

" 22. *Restriction on Bye-laws.*—And be it enacted, that no bye-law to be made by any of the Royal Colleges of Physicians or Surgeons of England, Scotland, or Ireland, respectively, or by the Royal College of Physicians and Surgeons of Glasgow, shall be of any force until a copy thereof, sealed with the seal of the same college, shall have been laid before and approved by the said council of health and medical education.

" 23. *Registry of Students.*—And be it enacted, that it shall be lawful for the said council to make regulations for ensuring the registry of all medical and surgical students, by the proper officers of the several hospitals, or medical or surgical schools at which they shall study, and to authorise such officers to take a fee for such registration, not being more in each case than *ten shillings*, and for requiring all such fees to be remitted to the secretary of the said council, and returns to be made to them of the registration of all such students, in such manner and form as the council shall think fit; and no hospital, or medical or surgical school shall be recognised by any of the said colleges, which shall neglect or refuse to give due effect to such regulations, after notice of such neglect or refusal shall have been sent by the said council to the said colleges, until the default of such hospital or medical or surgical school be amended, to the satisfaction of the said council, and all such fees shall be applied toward the expenses of this Act.

" 24. *Constitution of the Examining Bodies.*—And be it enacted, that where by this act it is provided that the concurrence of more than one body is required for qualifying any person to be registered by the said council, the examination before such bodies for his degree or letters testimonial, or both, may be conducted either separately, before examiners appointed by each body, or before a joint board of examiners, to be appointed by each body separately or conjointly, who shall be appointed in such number, manner, and form, and shall hold their examinations at such times and places as such bodies shall, with the approval of the said council, agree from time to time among themselves, or as shall be determined by the said council, with respect to any point on which they shall not be agreed; and where there shall be separate examinations before examiners appointed by each body, the subjects and fees of examination shall be divided among such bodies as they shall from time to time agree among themselves, or as the said council from time to time shall determine with respect to any subject on which they shall not be agreed.

" 25. *For securing Efficiency of Examination.*—And be it enacted, that the council may from time to time require returns to be made in such form, and including such particulars, as they shall think fit, respecting the examinations to be conducted as aforesaid, and it shall be lawful for any secretary of the said council, deputed by the council for that purpose, or for any member of the said council to be present at any of the said examinations; and if the council shall be of opinion that the regulations prescribed by them for the examination and grant of letters testimonial as physician, surgeon, or licentiate, have been infringed, evaded, or neglected by any of the said examining bodies, it shall be lawful for the said council to refuse to register upon the testimonials of the body so in default, until the same be amended to the satisfaction of the said council.

"26. *None but those Registered to be appointed to Public Situations.*—And be it enacted, that, subject to the reservations hereinafter contained, no person, after the *passing of this Act*, who is not registered by the said council, shall be appointed to any medical or surgical office in any public hospital, prison, infirmary, dispensary, workhouse, or other public institution in the said United Kingdom, or to any medical or surgical office in her Majesty's army or navy, or in the service of the honourable East India Company, except in India, natives of India, duly qualified according to such laws or regulations as are or shall be made in that behalf by the Governor-general in council; and wherever by law it is provided that any act shall be done by a physician or surgeon, or medical or surgical practitioner, by whatever name or title he is called, such provision shall be construed, after the *passing of this Act*, to mean a person qualified to be appointed to such medical or surgical offices as aforesaid; and the council of health shall be empowered from time to time to make regulations for specifying what institutions are to be considered public institutions within the meaning of this Act, and which form of testimonial shall be necessary to qualify the holder thereof for every such situation.

"27. *Privileges of Persons Registered.*—And be it enacted, that all persons who are registered by the said council as physicians, surgeons, or licentiates, shall be exempt while practising as such from being summoned or serving on all juries and inquests whatsoever, and from serving all corporate, parochial, ward, hundred, and township offices, but subject to the reservations hereinafter contained; no person shall be entitled to such exemption, on the ground of his practising medicine or surgery, who is not so registered, nor shall the certificate of any such unregistered person, given after the *passing of this Act*, be received as the certificate of a medical or surgical practitioner in any court of law, or in any case in which by law the certificate of a medical or surgical practitioner is required.

"28. *Persons now Practising may be Registered.*—Provided always, and be it enacted, that it shall be lawful for the said council, on the application, within *twelve* calendar months after the *passing of this Act*, of any person legally practising as a physician, surgeon, or apothecary, at the time of the *passing of this Act*, in any part of the United Kingdom of Great Britain and Ireland, or on the application, within *two years*, of any person so legally practising in any of her Majesty's colonies and foreign possessions, to cause the name of such person to be registered as a physician, surgeon, or licentiate in medicine and surgery, as the case may be, on production to the said council of his diploma, licence, or certificate, or to such other proof as shall be satisfactory to the said council, that at the time of the *passing of this Act* he was legally entitled to practise as a physician, surgeon, or apothecary, as the case may be, in some part of the said United Kingdom, and on payment of a fee of *two pounds* in the case of fellows or associates of the said colleges of physicians and surgeons respectively, and of *five shillings* in every other case, which fees shall be applied toward the expenses of this Act; and during the said period of *twelve* calendar months, every person legally practising as a physician, surgeon, or apothecary, at the time of the *passing of this Act* in the said United Kingdom, and during the said period of *two* years, every person so legally practising in any of her Majesty's colonies and foreign possessions, although not registered, shall continue to enjoy the same privileges and exemptions, and be qualified to be appointed to the same offices, and to practise in the same manner as if this Act had not been passed, and no farther or otherwise, unless registered under this Act.

29. "*Penalty on Unqualified Persons for practising in Public Offices.*—And be it enacted, that every person appointed after the *passing of this Act* to any medical or surgical office for which he is not qualified according to the provisions of this act and the regulations of the said council, and who shall act or practise in such office, shall for every such offence forfeit the sum of *twenty pounds*, to be recovered by action of debt or information to be brought in any of her Majesty's courts of record at Westminster, or in the court of Exchequer in Scotland, or in Dublin, within *six calendar months* next after the commission of the offence, and to be recovered in the name of her Majesty's attorney-general in England or Ireland; or of the lord advocate in Scotland.

"30. *None but Registered Persons, or those already Practising, may recover Charges.*—And be it enacted, that after the *passing of this Act* no person shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance, or operation, or for any medicine prescribed or administered, unless he shall prove upon the trial either that he is registered under this Act, or that he was legally practising in the capacity in which he claims such charge before the passing of this Act.

"31. *Penalty for falsely pretending to be on the Register.*—And be it enacted, that every unregistered person who shall wilfully and falsely pretend to be, or take, or use any name or title implying that he is registered under this Act, shall be deemed guilty of a misdemeanor in England and Ireland, and in Scotland of a crime and offence, and being convicted thereof, shall be punished by fine or imprisonment, or both, as the court before which he shall be convicted, shall award.

"32. And be it enacted, that this Act may be amended or repealed by any Act to be passed in this session of Parliament."

As Parliament will probably not meet till February, we will have several opportunities of drawing attention to the subject of Medical Reform, before it become matter of debate in the Legislative Assembly. On this occasion, therefore, we propose to limit ourselves to a few brief and general remarks.

The two great and only legitimate ends of medical reform are: TO ENSURE TO THE PUBLIC COMPETENT PRACTITIONERS; AND TO PREVENT THEM BROM BEING SUPPLANTED BY IGNORANT AND DANGEROUS PRETENDERS. That neither object can be sufficiently attained by the present system, all readily admit; and that a necessity exists for the legislative protection, both of patients and practitioners, is equally obvious. In introducing the Bill which has now been laid before our readers, Sir James Graham well remarked:—

"One evil attendant on the practice of medicine, is the incompetency of those who profess to practise it; and the remedy required is, to secure to the public a sufficient degree of knowledge and skill on the part of the practitioner. All men are tenacious of life, and when life is endangered, there is a natural tendency to fly for succour to those who hold out the largest promises of relief. Hence quackery attains an influence over the human mind,

'For sure the pleasure is as great
Of being cheated as to cheat.'

I do not propose that quackery should be put down by statute. The object of the present bill is to amend many of the provisions of the present imperfect law. But to put down quackery by legislation, would be seeking to attain an impossibility. Without attempting, therefore, to suppress quackery, it is, I think, within the scope of a wise legislature, to offer direct encouragement to the able, qualified, and accomplished practitioner."

The means by which the Right Honourable Baronet proposes to insure practitioners being properly educated, are not very clearly brought out in the Bill; but so far as stated, they consist in an establishment of a "Council of Health and Medical Education," (*clauses* 2 *to* 13 *inclusive*), with the power of "securing sufficiency of examination," (*clause* 25.) Now all this is unobjectionable; but we question exceedingly whether the public will be satisfied, that the examinations really are efficient, unless some of the leading provisions regarding them be fixed by statute. It is not the stringency of examinations, so much as their nature, that will afford a guarantee that the *duly licensed* is a *duly qualified* practitioner; and unless the whole system of medical education and examination be radically reformed, Sir James Graham's Bill will be productive of little benefit to the public. It is at present notorious that medical and surgical diplomas, though testimonials of their holders having passed certain examinations, afford no evidence whatever that they are able to diagnose and treat diseases, or practise midwifery. Nay, it is quite possible for students to procure licences, although their attendance upon hospitals has been merely nominal.[1]

Clause 13, which requires a register of legal practitioners to be kept and published, may, in so far as it establishes this register, afford some protection and advantage to *duly licensed* practitioners, but it would only be of equal benefit to the public, did the testing examination afford a guarantee that those who passed it with credit, did so, from being conversant with disease, and not with the gibberish of the grinder. We ask in all soberness what protection will the registration of practitioners afford to the public, so long as young men continue, as at present, to be dubbed doctors and surgeons, without the bodies by whom these titles are conferred having had even an opportunity of discovering whether they possessed the power of distinguishing one disease from another? Of course it would be quite competent for the "Council of Health and Medical Education" to establish a proper and rational system of clinical tuition, and enforce CLINICAL EXAMINATION upon all the licensing bodies; but from the proposed constitution of the Council and Examining Boards, we cannot venture to hope that so sweeping an innovation of this description would be attempted; AND UNLESS SUCH A CHANGE BE CARRIED OUT, WE MAINTAIN THAT THE GREAT BODY OF PRACTITIONERS CANNOT, BY ANY POSSIBILITY, UPON THEIR FIRST ENTERING UPON THEIR CAREER, BE COMPETENT TO TREAT DISEASE; AND IF

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[1] Certificates of attendance upon some hospitals with which we are acquainted, are granted to those who sign an album once in three months! The apothecary grants a note to the student, stating that this rule has been complied with, whereupon the physicians, (who very often have never seen the pupil), are called upon to certify that he has "*regularly attended the practice of the hospital!!*" Documents of this description can be obtained by those who never enter the hospital, and they are of course received by the public boards as truthful.

THEY ARE NOT, WE WOULD LIKE TO KNOW WHY THEY DESERVE TO BE PROTECTED?

This is not the place to state our views at any length upon the subject of medical education; but we have been forced to advert to them in these general terms, for the purpose of showing the grounds upon which we regard the Bill as insufficient to protect either the profession or the public. To US THE ESSENCE OF ANY MEASURE OF MEDICAL REFORM OUGHT TO BE THIS—TO GIVE, IN THE FIRST PLACE, A STRONG PLEDGE TO THE PUBLIC, THAT THE PRACTITIONER'S LICENCE REALLY IMPLIES THAT THE PERSON TO WHOM IT IS GRANTED CAN PRACTISE PROPERLY; AND TO PROTECT PRACTITIONERS SO TESTED FROM THE COMPETITION OF THE UNQUALIFIED. For unquestionably, if the public are provided with such a body of efficient medical men, it would be proper to make the practice (for money or gain) of medicine, surgery, midwifery, or pharmacy, by all other persons, a crime or misdemeanour.

A good deal of objection has been taken by a respected medical journalist to the repeal of the protective part of the Apothecaries' Act of 1815 (*preamble*); but we think without much reason, for it has, undoubtedly, produced evil, and little, if any good.[1]

The taxing of medical men, under the name of registration fee, is most unjust; and if any money at all is to be exacted for names being placed upon the register, let the fee be nominal. Large sums are levied, under the name of stamp duty, for the parchment upon which diplomas and degrees are written; and now, forsooth, we have to pay two pounds or five pounds to be placed upon the register. There might be some justice in this were the registered only allowed to practise, but certainly not if there is to be free trade in medicine, as Sir James Graham declared in his speech there ought. We believe that were the Bill to pass, in its present shape, the unregistered would have fully as good a chance to obtain popular favour as the other; and they would certainly be much safer in all actions against them for malapraxis. Juries would, as heretofore, bring in damages against the bungler, who was possessed of a legal qualification, and let off the quack or impostor, upon the ground that any one employing him must have done so at his own risk, and knowing that his name was not in the register. The "privileges conferred on persons registered" (*clause* 27) can benefit only a small number of the thirty thousand British practitioners of medicine; and for this is our ill-paid and ruined profession to be taxed to the enormous amount of L.75,000?[2]

The topics suggested by the Bill now before us are many, and of such a nature as can only be done justice to in more lengthy articles than we can now give place to. We have thought it right, however, to say this much in the mean time upon the changes proposed to be made in our medical polity, fearing that amid the clash and jar of conflicting Corporations, the true aim and only sure foundation of medical reform has been lost sight of. No good measure can be obtained unless the public and the profession go forward heartily, and hand in hand in its support;—and by the profession we do not mean the Chartered Colleges and Corporations, but the whole body of medical practitioners within these kingdoms.

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[1] The Worshipful Company of Apothecaries, it must be avowed, did not work their Act in a proper spirit, as it was not against quacks that they proceeded, but against regular surgeons, who had not passed their board.

[2] This statement is deduced from a calculation founded on the last census.

In future numbers we shall more specifically unfold our views. But we cannot conclude this notice without stating, that, considering the extreme difficulty of the task, and the diversity of advice with which Sir James Graham was besieged, he has acquitted himself well, and deserves the thanks of all honest medical reformers.

Although not satisfied with the Bill, we would be sorry that it were lost from attempts to gain too much. In an amended form it ought to be gratefully accepted as an instalment. Two of its provisions are positively good, and urgently require to be enacted without delay, viz.,—Uniformity of qualifications among practitioners of the same class, wherever they may be licensed, in the United Kingdom; and, Uniformity of privileges in the three kingdoms.

(*To be continued.*)

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1. *The Glasgow Bills of Mortality for* 1841 *and* 1842. *By* Alexander Watt, LL.D. Glasgow: 1844.
2. *The Fifth Annual Report of the Registrar General of Births, Deaths, and Marriages in England.* Second Edition. London: 1843.

These works contain a vast mass of information relative to subjects of great interest and importance to individuals and to nations. We are sure they will be eagerly studied by the political economist and the general student, and they may also be consulted with much advantage by all medical men who are anxious to obtain important and useful facts connected with medical science and practice. The state of the public health, the law of mortality,—as relates, not only to disease in general, but to particular diseases, the proportion which the births bear to the deaths, and to the general population,—as well in large manufacturing towns as in agricultural districts, with many other matters connected with the physical and moral state of the people; all these particulars are treated at very considerable length, and amply illustrated by tables framed at the cost of much time and labour. Many of the results are curious and useful, all of them extremely interesting, particularly to those who have leisure and inclination for such subjects, and they will at all times serve for reference to future statists pursuing similar investigations.

We cannot help remarking, however, in relation to the first work, that of Dr Watt, which must have cost the author a great amount of labour and perseverance, that it is truly lamentable to think that all this time and talent and labour should be spent in attempting to obtain correct facts on these subjects, when the data from which the facts are deduced are notoriously and avowedly so defective. In Scotland the registers of marriages and of births, particularly the latter, have been so slovenly and inaccurately kept, where they have been kept at all, and the omissions are so numerous, that were we to take the proportion of the births to the marriages, or the proportion of either to the whole population, as exhibited in Dr Watt's tables, and believe that we had ascertained these points correctly in relation to the great city of Glasgow, we would certainly be labouring under a most egregious delusion.

We shall make this quite apparent immediately, but in the mean time we quote what our author himself says as to the omissions in the registration of the births. That the data we have to go upon is incorrect in the highest degree is very plainly stated by Dr Watt. He says at page 6, "It is to be regretted that our information relative to the amount of births in Glasgow is as defective as ever." And again,—"Notwithstanding the inconvenience which often arises both to parents and children from the inattention which prevails in not recording the births of children, our public registers of births and baptisms appear to be as defective for 1841 as they have hitherto been. An effort to obtain a nearer approximation to the amount of births within the range of the bills of mortality, than that furnished by these registers, was attempted by the Magistrates and Council for the year 1841, by requesting a return from all clergymen and others of the children born within their several congregations; but, as the schedules transmitted to the various parties for this purpose have not been fully returned, and as some of those that have been returned are obviously inaccurate, it has been deemed proper not to publish them. Several of the returns received are, however, drawn up in the most satisfactory manner, and are in the mean time preserved among our other statistical documents.

"It is not in Glasgow alone that the registers of births are defective. If we compare the proportion of births recorded for England and Wales, as exhibited in the Registrar-General's Report for 1839–40, with those recorded for some of our Scotch towns, we may form a pretty correct judgment of the deficiency of the registers of births in Scotland. The proportion of births recorded for England and Wales for that year, to the population of 1841, is 3·153 per cent.; while the number of births, or baptisms, recorded for Edinburgh and Leith, on an average of years, to the mean population of these years, is 0·992 per cent.; for Glasgow, 1·160 per cent.; for Aberdeen, 1·311 per cent.; for Dundee, 1·497 per cent.; and for Perth, 1·704 per cent. It will be perceived that the smallest proportion of births or baptisms are recorded for Edinburgh and Leith, and the greatest for Perth; and that the whole of these records are so incomplete as to give no indication of the true number of births for these towns. It appears, however, that this important branch of the Vital Statistics of Scotland must remain incomplete till Government be induced to apply a remedy." Pp. 60-61.

And again, at page 68, "It is much to be regretted that we have no registers of births in Scotland, of sufficient accuracy to guide us in our calculations on the Vital Statistics of the country."

The registers of marriages in Scotland, although more accurately kept than those of births, are still deficient from various causes. In Dr Watt's work the following relate to this part of the subject.

"The tables of marriages published in our mortality bills for 1839, 1840, with that of 1841, show that of the inhabitants of the city of Glasgow and the suburban parishes of Barony and Gorbals, the average annual number of males married during the years 1837, 1838, 1839, 1840 and 1841, was 2186 1-5th; females, 2166 4-5th; the total average annual number of individuals married during the years being 4353.

"Therefore the average annual number of males married these five years in Glasgow and Suburbs, compared with the number of males, as ascertained by the Census of 1841, is as 1 to 61·333, or 1·630 per cent.

"The average annual number of females married, to the female population, as - 1 to 68·325, or 1·463 per cent,

"Greater proportion of the male than of the female population married, by - - - - } 0·167 per cent.

"While there was, on an average of these five years, 0·167 per cent. more of the male than of the female population of Glasgow married, it appears that on the average of these years there was 0·887 per cent. fewer females than males married. By the Census of 1841, there were 110·41 females to every 100 males in Glasgow.

"The average annual number of individuals married, to the total population, is as 1 to 64·813, or 1·542 per cent." P. 62.

"By referring to table sixth, it will be observed that the amount of proclamations of marriages, in 1842, is 514 less than in 1841.

"The same table shows that the marriages of parties resident in Glasgow

and suburban districts, amounted in 1842 to - -	1945
And in 1841, they amounted to - - - -	2332
Showing a decrease of marriages in 1842, amounting to -	387

"The proportion of resident marriages to the estimated population, in 1842, is as - 1 to 149·922, or 0·667 per cent.

"The average annual amount of resident marriages, for the five years preceding 1842, to the mean population of these years, being as - - - - - 1 to 120·290, or 0·831 per cent.

"We have no data to guide us in stating whether this great decrease in the proportion of marriages to the population in 1842, belongs to one particular class of society, or whether a decrease of marriages has taken place among all classes alike. There is perhaps nothing, however, which can more clearly indicate the depressed condition of our population than that the proportion of marriages in one year should have fallen from 1 in 118·44 (proportion in 1841,) to 1 in 149·92; more especially in a community like this, where it is well known that a large proportion of our working classes consider themselves justified in entering upon matrimonial engagements, when the parties have a fair prospect of providing food for themselves, with house furniture of the meanest description, and with little or no consideration for the maintenance of a family." P. 63.

In the Report of the Registrar-General the following curious particulars upon this subject are given.

"I have had an abstract made of the number of widows and widowers remarried in the last half-year of 1841. Of 65,498 women married, 5888, or 9 in 100, were widows; of the same number of men 8476, or 13 in 100, were widowers. The average annual number of marriages in the three years 1839, 1840, 1841, was 122,777; and it would follow from the above proportions that 106,889 men, and 111,740 women, or 218,630 persons marry every year. It was shown in the table (*b*) that there were 1599 marriages to a population of 100,000 males, and 1528 marriages to 100,000 females, or 1 to 63 males, and 1 to 65 females; but if the first marriages only be taken, the proportion to the population of both sexes will be found to be the same, viz., 1394 in 100,000. Excluding second marriages, one, therefore, in every 72 males, and 1 in 72 females, marry annually in England; or, if about 25 years ago the births were 395,000, 55 in 100 persons born lived to marry.

"The proportion of re-marriages is greatest in the metropolis, and in the North Western, Western, and York Divisions, where the mortality is highest, and where families are therefore most frequently broken up by the death of the husband or wife.

"There were married under the age of twenty-one, 5362 men, and 16,285 women; the proportion of minors (4·38 per cent. of the men, and 13·29 per cent. of the women) is below the averages of preceding years." Pp. 6–7.

In framing former reports, the Registrar-General had endeavoured to arrive at some accurate knowledge concerning the amount of education among the people, by ascertaining the number of persons who signed the marriage registers with marks, showing their inability to write. He says, in relation to the year 1841,—"The number of persons married who signed the registers with marks remains the same. I regret that I am unable to report any improvement on this head: 33 in 100 men, and 49 in 100 women married in 1841 did not write their names. In some parts of the country, 51 in 100 men, in others 71 in 100 women, did not write their names." P. 8.

The table which gives the particulars exhibits the proportions in the different divisions and counties of England and Wales, varying from 16 to 51 per cent. for the men, and from 36 to 71 for the women.

In regard to the deaths, it is certain that the registration of these is much better attended to than that of the births and marriages, and hence the information obtained is far more accurate. It appears, from Dr Watt's tables, that the deaths in Glasgow in 1841, exclusive of still-born children, were 3·14 per cent. of the whole population; and in 1842 only 2·523 per cent.[1] The great diminution in the mortality of 1842 is not accounted for. The average annual mortality for the five years preceding 1842 comes pretty close upon that for 1841, being 3·214 per cent of the whole population.

Now, a very cursory examination of these tables, and a comparison of the proportion which the births and the deaths bear to the whole population, will abundantly prove what we have said as to the great omissions in the registration of the births and baptisms. We presume it is quite certain that whatever *omissions* there may be among the deaths, there are not *more registered* than what actually take place. Now, when we find the deaths in the city of Glasgow reported to amount in 1841 to 3·14 per cent. of the population, while the births are only 1·16 per cent., and in 1842 the deaths to 2·523 per cent., and the births only a fraction more than 1 per cent., the evidence is conclusive that the omissions in the registration of the births must be enormous. A town which would give such results as these, supposing them to be accurate, would soon be depopulated, whatever might be the amount of the country population flowing into it. Hence our registers of births in Scotland, conducted as they now are, and have been, are absolutely worthless; and it is very properly said by Dr Watt, that "the Vital Statistics of Scotland must remain incomplete, till government be induced to apply a remedy." These tables, we think, clearly prove that *more than one-half of the births in Glasgow are omitted to be registered.* What dependence, then, can be placed on results deduced from such incorrect data?

What says the Registrar-General in regard to England on this point? From the table at p. 2 it is shown that the births in England for the year 1841 were 3·217 per cent. of the population, and the deaths 2·16 per cent; while the annual average for the three years ending with 1841 was, for births, 3·197 per cent; and for deaths, 2·219 per cent. This gives about *three* births for every *two* deaths, showing the glaring absurdity of the proportion as given for Glasgow. The Registrar-General says,—"In 1841, 512,158 births were registered; in 1840, 502,503; and in 1839, 492,574; the increase, therefore, was 9655 in 1841, and 9729 in 1840; or 19,584 in two years. If the births had increased at the same rate as the population, the increase would have been about 14,000 in the two years: the excess of 5584 over this number may, I think, be fairly ascribed to the greater efficiency of this branch of registration.

"The births registered were to the deaths in 1841 as 512,158 to 343,847; or as 149 to 100. *Three births,* therefore, are registered to every *two deaths.* The excess of births over deaths in the three years (1839, 1840, 1841,) was 464,575, or 154,858 annually, a number which falls very far short of the ascertained annual increase of the population in the ten years 1831–1841." Pp. 8, 9.

So much in regard to births, marriages, and the general mortality, upon which we have perhaps dwelt rather too long. We come now to that portion of these works which more directly concerns us as medical reviewers.

It has been considered useful to ascertain, as far as possible, the causes of death among our population, or the diseases from which the deaths arise; and attempts have been made, in different cities and districts, to keep registers, in which the names of the diseases are inserted. If such tables were accurately kept, they would show the number of deaths arising from each disease, and we could hence ascertain the comparative mortality of every different affection.

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[1] It is printed 1·523 (p. 64) but this is evidently a typographical error.

But such registers having been generally, in Scotland, under the care of persons connected with the burying-grounds, and who are not very particular as to their sources of information, they have hitherto been very inaccurately kept, and the knowledge derived from them must therefore be vague, uncertain, and generally useless. Dr Watt takes credit to himself for attempting to show, by such means, in former mortality bills, "the amount of deaths which takes place at different ages by a variety of diseases," and renewed attention has been given to this particular in the work before us. There are tables exhibiting, at 18 different periods of life from birth to ninety years of age, "the amount of those diseases of which the persons are reported to have died," for each month of the years 1841 and 1842, as applicable to Glasgow. If the names of the diseases were sufficiently distinct, and the information accurate, we would probably agree with the author, when he says at p. 71,—"A knowledge of the specific law of mortality by each disease, at different ages, by determining more clearly the nature and operation of the disease, may be expected both to lead to improved modes of medical treatment, and to aid the introduction of such sanatory regulations as would ensure to our city one of the greatest of social blessings—a healthy population."

But what accuracy can be expected or what utility gained, when the whole diseases to which the human body is subject, are grouped into nineteen divisions only? And although the names may be as perfect as the reporter could procure, the results are of little value, except as regards a very few diseases, as *small-pox*, *measles*, *scarlet fever*, where the affection is so evident, that no mistake is likely to be made. But for medical purposes the terms, "decline," "nervous," "diseases of head," "of heart," &c., and even "bowel complaints," "inflammation," &c., are of no utility whatever. Inflammation is such a wide term, that of the 71 who are reported to have died of it in the table for January 1841, a medical man wishing to be accurate, could not know how to divide these among the forty or fifty different inflammatory diseases. As is well observed by the Registrar-General, "The term inflammation, without specification of the part inflamed, is so vague, that no use can be made of the facts," p. 369. The objection applies also to such terms as "diseases of the head," "diseases of the heart;" as every medical man knows that these organs are subject to many different and distinct affections. The term "decline" is not a disease at all, although the number reported to have died of it in these tables is generally greater than that of any affection whatever, being about one-seventh of the whole. Such results, therefore, are of little utility in ascertaining the prevalence or the comparative mortality of particular diseases. In these remarks, we do not mean to find fault with Dr Watt. No doubt he made the best use of the reports put into his hands; but so long as the individual diseases named comprise a mere fraction of the whole, it would be vain to expect to obtain correct information in regard to this particular. We are quite aware of the difficulties of ascertaining accurate reports upon this point, arising from many different causes. In some instances it may be impossible to obtain any report of the cause of death from a medical man. In others it may be difficult or impossible even for a medical man to say what has been the disease which produced death; and in others again, the deceased may not have been visited by any medical man at all, and in all such the name or kind of disease is merely guessed at. Still some plan might be adopted by which accurate reports could be got, and until this is done, tables formed from incorrect data cannot be depended upon.

If we suppose these monthly tables to be tolerably correct in regard to *small-pox*, *measles*, *scarlatina*, &c., some curious particulars might be gleaned from a careful analysis of them. Our remarks, however, shall be confined to *fever*, a tolerably wide term, under which are probably included all febrile affections except the eruptive fevers, the distinctive features of which are obvious to the senses.

In 1841 there appears to have been 1117 deaths from *fever* in Glasgow, and the proportion which the deaths from this disease bear to the whole deaths varies in each month from 1 in 6·35 in March, to 1 in 11·5 in December, the average for the whole year being 1 in 8·465; that is to say, that for every 17 deaths in the whole population during the year 1841 in Glasgow, *two* were produced by *fever*. If the first half of the year be compared with the latter half, the result will appear singular to those who have not paid attention to the subject, the first six months having by far the most deaths. The average is 1 in 6·93, and 1 in 10 respectively. Again, in 1842, it appears the number of deaths from fever was not one half of that in 1841, being 468 only, while the proportion to the deaths from all diseases is only 1 in 16·3. The month, in which the average was highest, is the same as in 1841, viz., March, being 1 in 11·38, and that in which it was lowest is September, being 1 in 23·29. The average for the first six months is 1 in 15·28, and for the last six months, 1 in 17·33. It appears then, that while in 1842, of 17 deaths from all diseases, a little more than *one* arose from *fever;* in 1841, of the same number, a little less than *two* arose from that disease. This result proves that, although fever was much less prevalent in 1842 than in 1841—there being not one half the number of deaths—yet the proportion of deaths to the mortality from all diseases being nearly in the same ratio, the average mortality of the disease was just about the same in both years. The fact of fever being always most prevalent and most fatal during the cold months of the year, is also shown from these tables, as in both years the number of deaths and the proportionate mortality were both greater in the months from January to June, inclusive, than from July to December inclusive; and the difference is greatest in 1841, in which year the greater number of cases occurred. This will be found to be still more remarkably the case, when common fever prevails to a great extent, which it did not do in either of these years. From these tables we would conclude that the fever cases began to diminish about the middle of the year 1841; for the number of deaths fell from 103 in May of that year, gradually to 55 in January 1842, 40 in April, down to 24 in September. In the spring of 1843 the numbers would, no doubt, increase rapidly, as the epidemic fever became then extremely prevalent, and continued so during the whole of that year.

That not only fever, but diseases in general prevail most, and are most fatal during the cold seasons of the year, is also shown in the Report of the Registrar-General, at p. 11, where a table is given of the number of deaths which took place in the winter, spring, summer, and autumn of the years 1838 to 1841. He makes a good many remarks on the influence of the seasons on mortality, and also extends this influence to the births and marriages. On this subject he says,—“The seasons have most influence on the number of marriages; least on the number of births. If 100 be taken to represent the lowest average number registered in a quarter, the births rise to 109, the marriages to 142, the deaths to 129. According to the abstracts down to the present time, the births and deaths are most numerous in winter, marriages in autumn; whilst the smallest number of births and deaths occurs in summer, of marriages in winter.” P. 13.

Although the mortality from all diseases is greatest in winter, and the same is the case with some individual diseases, as fever, there are other complaints which appear to be most prevalent and most fatal during the warm months.

If we examine the results in regard to the affections included under the term “bowel-complaints,” in these tables, it will be found that in 1841 the average proportion of deaths, to the whole deaths, was for the first six months, 1 in 10·85, for the last six months, 1 in 8·01, and for the whole year, 1 in 9·43. In 1842 the numbers were 1 in 9·64, and 1 in 6·92, and for the whole year, 1 in 8·28. The greatest proportion of deaths took place in August and September, averaging in 1841 about 1 in 5 of the whole mortality, and in 1842, so high as 1 in 4½. It appears also from these tables, that these are the months in which the greatest proportion of deaths of children under five years of age takes place, and it is well known that “bowel-complaints” prevail most among children. In 1841 the deaths from “*decline*” averaged 1 in 6·6, and in 1842, 1 in 5·9. The increased mortality from these two causes, in 1842, compared with 1841, taken along with the diminished number of deaths from fever in 1842, is another proof of the fact, that just in proportion as one disease becomes less mortal, another becomes more so, the general mortality being nearly the same; as was long ago remarked, when the mortality from small-pox became greatly lessened, in consequence of the introduction of vaccination, the deaths from other diseases of children, *measles*, *hooping-cough*, &c. were, in proportion, increased. But "*bowel-complaints*" and "*decline*" are not the only diseases whose mortality was increased in 1842. Dr Watt states,—"It will be seen, from the above table, that a considerably greater amount of deaths by measles have taken place in Glasgow during 1842, than on the average of the five preceding years; amounting, in 1842, to 0·197 per cent. of the population; and, on the average of preceding years, to 0·122 per cent." p. 81. He shows that the same was the case with *small-pox*, *hooping cough*, and *scarlatina;* while, as we formerly remarked, the deaths from fever were not one half what they had been in 1841.

Dr Watt has also given tables of the mortality for *seven years*, (1836 to 1842 inclusive,) exhibiting the number of fatal cases of disease, at different periods of life, arranged monthly, and divided into nineteen different affections as before. Taking the division "*fever*," we still find that the month exhibiting the greatest mortality, is March, (1 in 7·12,) as in 1841 and 1842, and that which shows the least, is September, (1 in 10·10,) the same as in the former year. The average proportion of the deaths during the whole seven years appears to be, for the first six months, 1 in 7·85, and for the second, 1 in 8·47, and for the whole year, 1 in 8·16; very little different from the results of 1841. If we take winter and spring, the average is 1 in 8·05, while for summer and autumn it is 1 in 8·27.

It appears, then, that although one year may differ very much from another, in respect to the proportion which the deaths from *fever* bear to the whole deaths, as exemplified in the results of 1841 compared with 1842, yet if a series of years be taken, the result is that in about every *eight* or *nine* deaths from all diseases, there occurs *one* from what is denominated in these tables "*fever*."

At page 81, some remarks are made on the "proportion of deaths to the number attacked by the disease," *(fever.)* Dr Watt thinks that each disease has a law of mortality peculiar to itself, and that this is particularly the case with regard to common fever. As one proof of this, he endeavours to show that the number of deaths from fever, in any particular year, is much the same in different cities and towns. On this point he says, "Another important principle, in relation to the law of mortality by the different diseases, falls to be considered. From various data that have come under my notice for some of those diseases specified in the foregoing sheets, it appears that, out of a given number sick, the proportionate amount of deaths is very uniform. From the present unsatisfactory state of our Registers, it is difficult to obtain sufficient data for the various diseases, to come to accurate conclusions on this head. We are indebted, however, to the able researches of Mr Farr, for clearly exhibiting the law of mortality of small-pox, cholera, &c. We are also indebted to Professor William Thomson, of the Glasgow College, for another valuable additional table, this year, to the Royal Infirmary Report. From this table, it is found, that, on the average of the last seven years, the amount of deaths by fever, out of the number of cases treated in that institution, is 12·28 per cent. From the data afforded by two Reports of Dundee Royal Infirmary, now before me, it appears that, for the year 1837–38, the deaths by fever amounted to 12·27 per cent. of the whole cases treated in that institution; and in the year 1840, they amount to 12·00 per cent. These proportions, it will be found by the following abstract, correspond very closely with the proportion of deaths by fever in the Glasgow Royal Infirmary during the same years." P. 81.

"In the 'Appendix to the Reports from the Royal Infirmary of Edinburgh, 1841,' there is a valuable table, exhibiting the amount of cases treated, deaths, &c., for the various diseases in that institution, for the period of two years and three months—from 1st July 1839, to 1st October 1841; from which it appears that, during that period, the amount of deaths (males and females), by fever, amounted to 13·71 per cent. of the cases treated in that Institution." P. 82.

When treating of the "physical laws which appear to govern the amount of deaths at different ages, by the several diseases," in a previous part of the work, Dr W. says, "The first example I shall select is that of fevers for Edinburgh during the years 1839, 40, and 41; and for Glasgow during the years 1837–38–39–40, and 41. The close proportions which the amount of deaths by fever, in these two towns, bear to each other, not only demonstrate the existence of a precise law which regulates the amount of deaths at the different ages by fever, but proves that the fevers which prevailed in these cities, during the years above stated, were exactly of the same character." P. 71. It proves only that they were of the "same character" in regard to mortality, but nothing else. They might be very different from each other in every thing else. Because *measles* and *hooping cough* happen to show the same mortality, does this prove that these diseases are of the "same character?"

In further proof of the existence of "a precise law which regulates the amount of deaths at the different ages," by different diseases, Dr Watt remarks, "We have now seen that the proportions in the amount of deaths under any given age, by the foregoing diseases, fevers, measles, scarlet fever, small-pox, and hooping-cough, to the whole amount of deaths by each disease respectively, are very nearly the same, although the total amount of deaths by the same disease is very different in each town. In some instances, where the circumstances of the people vary much from each other, a corresponding variation takes place in the mortality at the same ages." He continues, "the closeness of the results exhibited can no longer be looked upon as merely accidental, but as the effects of precise laws which regulate the amount of mortality at different ages by the various diseases. The conclusion seems to force itself upon us, that, *cæteris paribus*, the mortality at different ages by these diseases, is uniformly in certain proportions to the amount of deaths by each disease respectively." Pp. 78, 79.

The concluding remarks are worthy attention. "Were our registers so improved, that perfect reliance could be placed on the recording of the whole of the fatal cases of disease, then this subject could be prosecuted more advantageously; and, in the event of its being found that all diseases are subject to similar laws of mortality, tables could be so constructed, that the total amount of deaths by each disease, in any locality, being known, the ages at which the population died would be also known. In the prosecution of this subject, however, care must be taken that only those diseases that are governed by the same law of mortality should be classed together; for, should two or more diseases, differing in this principle, be classed with one another, the proportions of deaths at the different ages must necessarily incline to the proportions of that disease of which there has been a redundancy of deaths during the time the example is taken, producing a variation in the proportions, which would not be the case were the diseases taken separately." Pp. 79, 80.

In the report of the Registrar-General, all these subjects are treated at great length, and much curious and valuable information may be obtained from the work. The results are deduced from data more accurate than those from which Dr Watt's tables are framed, as the registrations of marriages, births, and deaths, are much more carefully and correctly kept in England than in Scotland.

That portion of the volume which treats of "public health in 1841," is probably the most interesting to the medical inquirer. It contains a table exhibiting the causes of death, or the diseases from which death took place in the four years 1838–41, and these are arranged under *ninety-five* divisions. This is, at all events, an approach to accuracy, and to show the minuteness and variety of the information contained in the table, and the remarks connected with it, we extract a few sentences.

"In 1840 out of a million living, 22,878 persons died; in 1841 out of the same number living, 21,589 died. Of the decrease, 898 in the 1289 was in the *zymotic* class of diseases;" p. 368. That is the epidemic, endemic, and contagious diseases, which were less prevalent in 1841 than in the previous year.

"*Small-pox* was fatal to 16,268 persons in 1838, to 9131 in 1839, to 10,434 in 1840, and to only 6368 in 1841. It was less fatal in 1841 than either measles, scarlatina, or hooping-cough. This happy result is probably to be ascribed in great part to the vaccination act, which came into operation in 1840, and may be expected, by extending the application of Jenner's great discovery, to effect a still farther reduction in the sufferings, deformity, and mortality attendant on small-pox. *Hooping-cough* fell to the lowest ebb in 1840; *diarrhœa* and *cholera* were less fatal in 1841 than in 1840; influenza, though the mortality it occasioned was not great, grew more fatal every year, and in 1841 is stated to have been fatal to 1659 persons." Pp. 368–9.

It is curious how uniform is the number of deaths in the different years from the same disease. "The deaths by *mortification*, a disease easily distinguished, have been very uniform throughout the four years, namely, 1343, 1314, 1346, 1329; so have the deaths by *cancer*, 2448, 2691, 2786, and 2746. *Cephalitis* and *hydrocephalus* have prevailed with remarkable regularity during four years; the annual mortality of the two was 667, 669, 688, and 671 deaths out of a million. *Sudden deaths*, or cases in which inquests were held without determining the causes of death, increased but little from 1839 to 1841. If the deaths by hæmorrhage, aneurism, and apoplexy, added to the "sudden deaths," be supposed to represent with any degree of approximation, the danger of sudden deaths, it will be found to have been very uniform through the four years, namely, 675, 669, 671, and 687, in a million. It is about 1500 to 1 that a person will not be cut off suddenly by any one of these diseases: but the danger is increased by violent deaths, many of which take place rapidly. Childbirth, tetanus, and some acute inflammations, also put a speedy end to life. The sudden deaths of children are generally ascribed to "convulsions."

From the following extract, it would appear, that notwithstanding the boasted success of the *heroic practice* in cases of acute pneumonia, the mortality from that disease is still exceedingly great. "Diseases of the respiratory organs were fatal to 92,183 persons in 1841; the mortality which they occasioned was nearly 6 in 1000; it was 5911 in a million, or 132 less than in 1840, when 6043 in a million died of pulmonary affections. Of the decrease of 132 to a million, 55 was in pneumonia, and 75 in phthisis. The mortality by these two diseases, remained, nevertheless, excessively high, namely, pneumonia 1219, 1200, 1209, 1154 to a million living, and phthisis 3996, 3939, 3897, and 3822. Hitherto medicine has been able to effect little for the cure of confirmed phthisis, although there can be no doubt that attacks are warded off, and that life is prolonged by change of air, regimen, and the judicious administration of remedies. It is, on the other hand, a current doctrine in the schools, that pneumonia can be absolutely arrested by the free use of the lancet. How, then, it may be asked, does it happen that 17,997 persons died of pneumonia in 1841? A great number of the cases occurred in young children and in old people, as incapable of bearing depletion, as resisting a formidable disease; in many instances medical relief would be applied for too late; but after every allowance, 18,000 deaths annually must render the success of our present system of treatment less unequivocal than could be desired." Pp. 368–70.

"The deaths by hernia remained remarkably constant in the three last years, 474, 480, and 475; in 1838 they were 507. The aggregate mortality by jaundice, hepatitis, and other liver diseases was, in the four years, 262, 264, 267, and 261 in a million. If ascites, which is frequently the consequence of cirrhosis, or 'hobnailed' liver be added, the mortality will be slightly increased, or 266, 272, 280, and 273." "The same regularity which was evident in some other cases, was maintained in the mortality from diseases of the urinary organs during the four years; it was 112, 101, 110, and 106 in the million. The deaths by diabetes, in which sugar is secreted, were 207, 214, 233, and 253, indicating a slight increase in the mortality from this peculiar disease. The deaths from stone and gravel were 261, nearly the same as from diabetes. In previous years the deaths from stone and gravel were more numerous." Pp. 370–1.

"44 deaths were ascribed to ovarian dropsy in 1841, 43 in 1840." "About two persons in a million die of carbuncle every year; and considering that the numbers are small, they fluctuated very little in four years, 35, 38, 33, and 28. Twelve in a million die of external ulcer, 7 of fistula, and 5 of other cutaneous diseases. These affections would be frequently complicated by, and would complicate other diseases. It will be observed that several of the most common, painful, and troublesome complaints which occur in surgical practice, add little directly to the mortality." "About one-ninth of the people are returned as dying of old age." P. 371.

The notes connected with this section of the work, at p. 375 to 379, contain very full explanations, and many excellent and interesting remarks, under the heads, "epidemic and contagious diseases," "diseases of uncertain seat," "nervous system," "organs of respiration," "organs of circulation," &c. These notes we consider very valuable in a medical point of view. As an example, we give the briefest of all,—"Of deaths ascribed to intemperance, the following are selected as examples:—2 cases of 'insanity from drinking,' females, aged 47 years and 48 years;—'inflammation of the chest from excessive drinking,' a male 64 years; 'apoplexy from excessive drinking,' a female 46 years; 'excessive drinking of spirits,' a male 27 years; 'apoplexy from ardent spirits,' a male 50 years; 'excessive eating at dinner which produced a fit, and in struggling ruptured a blood-vessel in the abdomen (inquest)' a male 2 years; and 2 cases of opium eating, a female 48 years and a female 53 years." Pp. 378–9.

We have left ourselves no space for more quotations or remarks, and in conclusion can only recommend our readers to peruse the varied, useful, and highly interesting information contained in the portions of the report which treat of "deaths in child-birth," and "causes of the high mortality in town districts," which may be consulted with advantage equally by the physician, the statist, and the philanthropist.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE HUMAN OVARY.

BY CHARLES RITCHIE, M.D., Glasgow.

Concluded from p. 610.

25. The simultaneous development in the ovaries of two corpora rubra (20) was not met with in the present series of observations,—a circumstance which may be attributed, however, to the comparatively limited nature of the latter,

the general results of which, in respect to the ovaries of recently impregnated females, may be thus stated.

Appearance in Ovaries of,	Coincident with a period after conception of
a. *One* cerebriform body, with *single* cobweb-like lining (19 A.) (Corpus luteum of Dr Montgomery.)	A few weeks. About four months. About four mouths. Four months.
b. *Two* cerebriform bodies, with *single* cobweb-like lining (19 A.); ovum of one only being fecundated.	About six weeks. Seven months.
c. *One* cerebriform body, with *double* lining; innermost hard and opaque, with *persistent* cavity (19 B.) (Corpus luteum of Dr R. Lee.)	Three months. Four months. Eight months. Nine months. Nine months.
d. *Two* cerebriform bodies, *one* with *double* lining, as at *c;* the other with *single*, as at *a;* and only one conception.	Seven months.
e. *Two* cerebriform bodies, *both* having the granular matter *exterior* to the *membranes*, as at *c* (19 B;) ovum of one only impregnated.	Nine months.
f. *Cerebriform* bodies of *both* kinds (19 A. B.) in a *transition* state to *red bodies* (20); and, in common with all the varieties of corpora rubra, seen only in the puerperal female.	Nine months.
g. *One* red body (20,) with *single* cobweb-like lining, apparently a *conversion* of (19 A.)	Ten months. Eleven months. Twelve months. Thirteen months.
h. *One* red body (20,) with thick opaque lining, apparently a *conversion* of (19 B.) Redness in *outer* layer.	Ten months.
i. *Red* bodies; the redness situated in the *inner* layer (19 B,) and apparently in a transition state to white bodies (16 B.)	Thirteen months.
j. *One soft white* body (16 A.) (Corpus luteum of some writers.)	Ten months.
k. *Two* or *more* soft white bodies (16 A); one conception only.	Twelve to thirty-six months.
l. *One hard* white body (16 B.) (Corpus luteum of Von Baer.)	Eleven months. Fourteen months.
m. *Two* or *more* dense white bodies (16 B,) some of them probably conversions of cerebriform bodies (19 B,) from absorption of external granular matter.	Tenth month. Thirteenth month.
n. Unruptured ovisacs *only*.	Fifteen months.

26. There was no evidence furnished by any part of the investigation that granular matter was ever secreted around an unruptured Graafian follicle. A few of the cephaloid bodies in the pregnant female, instead of containing a coagulum, or being either empty or having their walls agglutinated together, were distended by the exudation from their inner surfaces of a transparent fluid, of a reddish, of a green, or of a yellow colour, the minute foramina by which they had been originally emptied of their ova and granular fluid having become obstructed, either by the contraction on them of the pulpy structure of one variety (19 A,) or by the elasticity of the other (19 B,) and an appearance produced which, unless for the discovery of the capillary-sized openings by which they had been perforated, might have been mistaken for Graafian vesicles still undischarged, and having a deposit of granular matter covering their coats.

27. A nippled or cumulated protuberance of the surface of the ovaries over a granular cyst; crateriform openings on the apices of the latter, with vascular

edges; and serrated "internal cicatrices," as they have been termed, traversing the interior of the cephaloid bodies; and blood-vessels ramifying on their granular matter, were not peculiar, as has been asserted, to the gravid female.

28. Immediately on the arrest, and during the suspension, of menstruation, by pregnancy, lactation, disease, or old age, the Graafian vesicles were found less vascular, of greater tenuity, and of smaller size, than their normal structure in menstrual life, and to rise to the circumference of the glands, and to be eliminated by very superficial and capillary-sized punctulated lesions of the surface of the ovary, precisely as, during infancy and childhood, the linear or angular cicatrices of menstruation, becoming at the same time gradually filled up or erased.

29. The co-existence of this modification of the ovisacs with the presence of cerebriform or of white bodies in the ovaries, was not peculiar to the gravid state, and could not, therefore, be relied on, unconditionally, as a proof of pregnancy; but its weight, as evidence of the earlier months of that condition, might be esteemed considerable when the corpora cephaloidea were large, massive, highly organized, and associated with similar bodies of a less perfect kind and smaller size, linear cicatrices, and other marks in the ovaries of recent menstruation, and also, with the existence in the uterus of a deep mahogany-coloured stain, from the late adherence of the ovum. And the same estimate of its value, as a proof of a not distant parturition at the full term, was warrantable when the corpora albida were perfect; the mammæ, abdomen, and thighs, indented with lineæ albicantes; the uterus bulky, discoloured, and flaccid, its labia fissured, and the spermatic or hypogastric veins occupied by coagula.

30. The obliteration of the cicatrices peculiar to menstruation, the presence of miliary ovisacs in the ovaries, and their appearance beneath the peritoneal coat as small copper-coloured spots, along with others of a yet more minute size, which had penetrated the substance of this membrane, and which did not require more than its thickness for their entire inclusion, together with the protrusion of some of these, often with extremely attenuated coats, in the form of very minute vesicles at the surface of the ovary, or along with puncta, or with a raw, blistered, or abraded appearance, occasioned by their recent rupture; and the existence at the same time, in either ovary, of a cerebriform body (19 B,) having the granular matter exterior to the two inner layers of the ovisac, or of a mottled, yellowish red, or of a roseate-coloured or red fibrous body (20,) was a combination of circumstances which was met with exclusively during pregnancy, or within four months after delivery at the natural term.

31. The changes in the character and mode of the production and discharge of the Graafian vesicles which follow suppressed menstruation, from whatever cause the latter proceeds, was not seen to occur earlier than two months after the last menstrual flow; and previous to the expiry of this period, therefore, there were, in such cases at least as presented only the cephaloid bodies (19 A,) no indications by which the fact of pregnancy could be determined irrespective of the discovery of the ovum, and the greater organization of the deciduous fungiform villosities which are thrown out in the uterine cavity at every menstruation, and which, in such cases, suggest the idea of their being the rudimentary spiral arterial coils and horizontal sinuses of the membranous decidua.

32. In some cases of newly-established menstruation, and also of amenorrhœa of short standing, an aggregate of phenomena was met with similar to that seen in the earlier months of gravidity, consisting of a diminution of the size of the ovarian follicles, the presence of well developed cephaloid bodies, the remains of linear cicatrices, and a smooth appearance of the ovaries, studded, also, with copper-coloured macules, minute vesicles, and porous openings, and united, in the lately menstruating female, to a vascular, congested, and ecchymosed state of the internal surface of the uterus; and in such cases, also, it is impossible to distinguish the state from that of those examples of early pregnancy, in which the corpora cephaloidea are of the construction (19 A) met with in the virgin ovary, except by a reference to the history of the individual, and the size and other conditions of the uterus.

33. While the compatibility of pregnancy with the presence in the ovaries

of cephaloid bodies, having a delicate inner layer similar to that seen in the same bodies in the unimpregnated female, is undoubted; the inner layer of ruptured ovisacs was sometimes found either in process of thickening, or already converted into a hard cyst, in circumstances where the appearance had no connection with pregnancy; but on these occasions the hypertrophy of the inner layer was not accompanied by any deposition around it of glandular or cerebriform matter; and in no instance was the union of hypertrophy of the inner coat of the discharged follicle, and the formation on it of cephaloid tissue, met with, whether the former was gathered up within the latter, as an insulated pellet or a thickened vesicle, or was extended out on it as an open cavity, unless during utero-gestation, and that also frequently in its earlier months; while the latter months of the same condition, and a period of four months after natural parturition, although obtaining sometimes without such appearance, were uniformly indicated when a corpus rubrum was present, the red body so found being always a conversion of one or other of the varieties of corpora cephaloidea.

34. The only special indication which distinguished the ovaries of lactating women delivered at longer periods than four months after the natural term, was the unusual prevalence in them, co-existently with the general characteristics already noted, of corpora albida,—a circumstance dependent, probably, as is also the diminished size and organization of the unruptured vesicles in the same cases, on the lower vascular activity of the uterine system during lactation.

35. The ovarian condition which most resembles what is here stated as occurring during lactation, is that met with in amenorrhœa from disease, and as this, whether temporary and occasional, or even protracted, may obtain, contrary to the opinion of some, along with a plump state of both glands, and a profusion of Graafian vesicles, some of them of good size, and, in recent cases, of considerable density, nothing absolute can be founded on the fact of white bodies being discovered in the ovaries, independently of the other circumstances of the case, beyond a mere probability that it may have been connected with the puerperal condition, a probability which may safely be believed, however, to increase with the number of these bodies, and with the freedom from atrophy of the uterus and its appendages.

36. Graafian follicles of some size were found in the ovaries for fifteen, and white bodies for twenty years after the critical age, and the discharge of attenuated minute vesicles, apparently simple cells, from the surface of these glands, appeared to terminate only with life.

37. No relation was found to exist between the number of corpora albida discovered in the ovaries after death, and that of the previous pregnancies; nor was there any specific distinction in the ovaries of women who had borne children as compared with those of females who had not been gravid.

38. Numerous examples of amenorrhœa in its varied forms, as connected with slight functional indisposition, pregnancy, lactation, organic disease, and old age, were observed, in which the ovaries remained of good size, and even in some instances were larger than natural.

39. Cases in which the ovaries were more or less crowded by well-developed Graafian vesicles coetaneously with the non-establishment of menstruation at puberty, and with its suspension by chlorosis, and by pregnancy at the sixth week, at the third month, at the fourth month, at the seventh month, and by lactation at the first, fourth, fifth, and sixth months, were noticed.

40. Instances of one or more menstruations taking place in succession in the same female, without the corresponding rupture of a Graafian follicle, were often seen, and, in some cases, it was demonstrable that, although the ovaries were occupied by very vascular and distended vesicles, and menstruation was normal, no lesion of a follicle had occurred even after several months; while in one woman, no less than eight, and in another, the strong probability of at least three times that number of consecutive menstruations having elapsed without the occurrence of that kind of rupture said to be essential to menstruation, was capable of proof; while in a third, there were no more than five of the large

cicatrices and other indications described by some as following every successive menstruation, to set against at least three years of the probable subsistence of this function; and in no case was it found that there was any approach to an accurate relation between the number of foramina or of cicatrices observed in the ovaries, and that of the presumed menstruations previously undergone by the woman.

41. The uterine appendages were not on every occasion found remarkably injected with blood during, or near to the time of the catamenial flow, and with one exception, in which the mucus of the tubes was of a red colour, most probably from regurgitation of the effused blood of the uterine cavity, the ovaries and tubes were even less turgid, in the few cases of actually existent menstruation which are recorded, than on some other occasions.

42. In some of the cases of the present series, as in others recorded by different observers, the vagina was found very red and vascular during menstruation.

43. The miliary-sized vesicles obtaining in the different forms of suppressed menstruation, instead of bursting, and being discharged when they reached the external surface of the ovary, which was the rule, were seen sometimes to traverse a portion of the broad ligament, and occasionally to become solidified in this situation.

44. A similar extrusion of corpora albida from the ovary to the broad ligament was also met with, and in both classes of cases a slender pedicular connexion of the bodies with the ovaries was in a few instances observable.

45. In most of the examples of extruded vesicles here (43, 44) referred to, the Fallopian tubes were impervious, and in such cases the secretion by the ovaries of numerous transparent minute vesicles with fragile non-elastic coats, and the discharge of those, as appeared, into the abdomen, seemed to continue irrespective of the tubal obstruction.

46. The Fallopian tubes of women at seventy years of age were found patent.

47. Ovisacs containing altered blood, or having their coats dyed black (corpora nigra), or yellow (corpora lutea), may occur independently of menstruation, and were, exclusive of the effusion of lymph from the extremities of the tubes and the exterior of the ovaries, which appeared to have a similar origin, the only ovarian changes which could be suspected to have any connection with venereal orgasm.—*London Med. Gazette*, 14th July 1844.

[In concluding this summary, we can do no more than allude to a few of those lines of investigation which Dr Ritchie's observations appear to open up, and to the modifications of our views of the theory of menstruation, and of the physiology of the ovary, in general, to which they point. The evolution, for example, of ovarian cells throughout every period and condition of female life, cutting, as it does, at the roots of M. Gendrin's and Dr Lee's speculation, that menstruation is produced by the periodical discharge of a Graafian follicle, and refuting also that other more ancient and established notion, already refuted, but under a different aspect, by Bischoff, that the fecundation of an ovum is essential to the rupture of the vesicle in which it is enclosed; the distinct proof afforded, again, that not only are vesicles discharged irrespective of menstruation, but that this function may be continued for a long succession of periods without the rupture of a single Graafian vesicle; the structureless character, farther, of these follicles in infancy, old age, and in protracted amenorrhœa from disease, their increased organisation frequently in other amenorrhœic, but more vigorous states, as during pregnancy, lactation, and after puberty, and their perfected development in menstrual life, shedding light, as such facts seem to do, on the mode of growth in the Graafian follicles themselves, and indicating also that the catamenial flow is not an effect, but in some accessory degree a cause of their maturation, and also of that of their contained ova; the correspondence, again, in the amount of organization of the ovarian calyces, hitherto on an erroneous hypothesis, termed true and false corpora lutea, with the activity of the uterine circulation, from whatever cause, and not, as we have been in the habit of thinking, with the presence or absence of impregnation *per se*, or viewed independently of the local plethora to which it gives rise; the arrangement, farther, of these bodies according to their physical characters, and without reference to any theory of their formation; the settlement of the questions, whether they are conversions simply of the tunics of the discharged Graafian follicles, or are new formations; and, in the cases in which the latter cannot be disputed, whether the effused matter is deposited external to the ovarian vesicle, or within its walls; and, again, the apparently perfect refutation, both from the presumed truth of the general statements, and from individual examples, of the well-known assertion of Haller, "numerus corporum luteorum est in ratione fœtuum;" and, finally, the determination with a measure of exactness which has been long felt wanting in this inquiry, of what are the phenomena in the uterus and in the ovaries which do really indicate the fact and period of conception, are so many of the subjects embraced in this investigation, which will obtain for it the consideration of physiologists.]

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PRACTICE OF PHYSIC AND PATHOLOGY.

On Impending Dissolution and Nervous Affections in Young Infants.

By Richard Doherty, M.D.

The risks to which children are exposed at birth, observes Dr Doherty, admirably exemplify the three modes, whereby, according to Alison's analyzation of the causes of sudden death, a period may be put to existence in after life; namely, by death commencing at the brain, death commencing at the lungs, and death commencing at the heart. And as, whilst each of these catastrophes is impending, a train of convulsive actions may be established in the adult, so in the child just born, these conditions may exist contemporaneously. Death commencing at the brain may be induced in two ways; firstly, as in compression, when the respiratory function is the first to suffer; and secondly, as in concussion, when the heart action is directly arrested. The first mode, or that by coma, is a frequent cause of children being still-born, and they then present the appearances of an individual of more advanced age labouring under apoplexy. It is quite a common circumstance for the face, when expelled, to assume a purple hue, which colour, if the labour be quickly finished, soon disappears; but if, from delay, pressure round the neck, or any other cause, the return of the blood from the head be prevented, the external engorgement continues to indicate a similar condition within the cranium, and although, when delivery is complete, the heart continues to beat, respiration is with difficulty, or not at all established. The same consequence may be induced, if the fœtus be subjected to long-continued pressure from the action of the uterus, or squeezed through the outlet of a narrow pelvis; and they not uncommonly result from the compression produced by the forceps. With respect to the other species of death, commencing at the brain, Chopart's experiments have shown, that in injuries to that organ, sufficient to produce concussion, and particularly when the spinal cord has been severely injured below the neck, the circulation in the capillaries has appeared for some time even more affected than the heart's action, although it is by the gradual failure of the circulation that such cases prove ultimately fatal. This, then, the author considers the mode of death, when the fœtus, having been exposed to powerful uterine action, or its head driven with repeated shocks against resisting points, such as incurvated spines of the ischia, comes forth pale in colour, of a low temperature, with relaxed limbs, and the cord pulseless or beating feebly; and also, in cases of breech presentation, when, in consequence of efforts to withdraw the head, injury is inflicted on the spinal marrow. Having related several interesting cases illustrative of the degrees of these conditions, and of the paralytic and convulsive affections which may result from them, he notices the differences in the treatment each will require. In the former, or apoplectic form, abstraction of blood from the cord, warm bath and friction to the extremities, while cold is applied to the head, followed by leeches to the fontanelles, and purgatives, if convulsions ensue, are the remedies he relies on. In this particular form, although medicines, which rapidly free the bowels, are of great service, his impression is, that injections with turpentine, so indiscriminately resorted to in all spasmodic affections in children, are not judicious. They appear to him to react injuriously on the head. When, on the other hand, the child comes into the world pale and feeble, with symptoms resembling those which arise from concussion, he advises that blood-letting should not be adopted in the first instance. The warm bath at a high temperature, the injection into the stomach of wine whey, not however, in sufficient quantity to interfere with the descent of the diaphragm, ammonia applied to the nostrils, and other remedies calculated to renew the nervous power, should constitute our immediate resources. A want of unanimity, he remarks, exists amongst writers on this subject, as to the best mode of employing water for the resuscitation of still-born children. Edwards and Schöller have decried the use of the warm bath, and recommended the fluid to be used at a low temperature; while Dr Hall considers that the warm bath should be succeeded by a sudden and forcible impression of cold water, the efficacy of the remedy being in proportion to the suddenness and energy of the alternation. With these latter directions Dr Doherty fully coincides, and independent of having witnessed the best effects from their adoption, he considers he is justified, even in a theoretic point of view, in rejecting as inapplicable to the present subject, Edwards' experiments, whereby he showed that an animal in a state of asphyxia will die much more readily, if immersed in hot than in cold water: because the still-born condition, according to his views, is markedly dissimilar from that of asphyxia, though nominally called so. Indeed, he looks on it as quite a perversion of the term asphyxia, to apply it to the ordinary forms of impending death in new-born infants. The word in its proper pathological signification, only implies a condition, the consequence of a cause, which directly arrests the supply of pure air that should enter the chest. But when born, the child is surrounded by an atmosphere of healthful quality, whose ingress is prevented by no mechanical impediment; and breathing, if it remain unaccomplished, is so, not from any fault in the lungs and its appendages, but from a defect in the supply of nervous influence, upon which the muscular actions, constituting respiration, depend. There is this difference too, between a child still-born and a person of more advanced age, who has fallen into asphyxia, that the latter has been accustomed to the circulation of arterialized blood, while in the former, the fluid has never as yet been decarbonized. In the asphyxia of the adult, he remarks, life may often be preserved if we reverse the conditions which then prevail, by substituting for natural inspiration an artificial current of air, whereby there may be effected in the pulmonary tissues those changes in the blood, necessary to enable it to traverse them, and it may be purified of those noxious constituents that are acting as a poison on the system. But in the child which has never breathed, things are differently circumstanced. In it the nervous apparatus has not yet been supplied with blood, which has undergone the process of aeration, and whatever may be the function of the placenta, that fluid, both in the arteries and veins, differs in no perceptible respect from the venous blood of the adult. In the child still-born, therefore, according to Dr Doherty, it is not necessary to take into consideration as an element in the production of a fatal event, the destructive effects of black blood, if conveyed by arterial vessels, so apparent in after life; and circumstances are consequently not so urgent as to require us to immediately adopt measures for its purgation, by beginning our efforts for restoration at the lungs, but they should be directed rather to the brain, and its peripheral extremities, whose blunted sensibility is the cause of the non-performance of respiration. Then, indeed, it may be useful, if breathing be delayed, to blow into the lungs, but the process at such a time, he considers, may be aptly compared to touching the pendulum of a clock, which has been wound up, but still remains at rest: it gives the impetus whereby the machinery—ready to maintain its own actions, once it is set a-going—is thrown into motion, whereas to commence with artificial inflation, more resembles making the pendulum vibrate, before the other parts of the apparatus are in a condition to perpetuate the movements thus begun. He believes the latter mode of application is much more frequently adopted than it ought, owing in a great measure to the term asphyxia being thus misapplied; an error which he attributes to the fœtus before birth being immersed in a fluid; and he has no doubt, that injury is often by this operation inflicted on the texture of the lungs, or, as the experiments of Leroy d' Etoiles lead him to think, restoration, instead of being aided, is actually prevented by the very means used. Death commencing at the lungs, therefore, or what should alone be termed asphyxia, is not, he asserts, of frequent occurrence in young infants. It is principally observed, in the event of a woman, either accidentally or by design, overlaying her child, or from its birth taking place unperceived, an occurrence, remarks the author, peculiarly liable to happen during the stupor which attends puerperal convulsions. This mode of dissolution may also ensue when on the infant coming into the world, the attendant neglects to free the mouth and pharynx from the mucosities with which they are generally clogged, and it sometimes is caused, as first pointed out by Héroldt, from the trachea and bronchial tubes being filled with liquor amnii, a fluid, which the observations of Leclard tend to prove, is actually respired, instead of air, by mature embryos. Under this head Dr Doherty also classes death produced by spasm of the glottis, and in a note gives an instance of that affection in the adult produced by a mass of tuberculous deposit, and an enlarged thyroid gland, which pressed on the nerves of the neck. He also gives examples of the condition, which Joerg has described, as resulting from a birth of unusual rapidity, wherein a portion of the lungs alone becomes filled with air, while the remainder continues in a fœtal state, and thence deduces as a rule to be observed in such cases, and indeed in all, never to tie the cord, so long as pulsation exists, until respiration is well established, and never to rest satisfied in any instance, until the child by its loud cry convinces us that its lungs are fully able to perform their function. At a later period in such infants, his treatment consists in the use of stimulants, internally and externally, together with remedies directed against the apoplectic and inflammatory consequences, to which the brain and lungs are both liable. Hæmorrhagic discharges from the uterus during gestation may, it is well known, be a cause of death, and premature expulsion to the fœtus, or of deficient vitality in the child at birth, even if carried to the full time; but, observes the author, we should not suppose this result to be produced by direct detraction from its system, as it has been proved by Wrisberg, that the parent may bleed even to the extinction of her life, without the fœtal vessels being deprived of their contents. It is strange, therefore, he remarks, to find Marc assert, that in cases of detachment of the placenta, and of ruptured uterus, the fœtus becomes bloodless. But in the former case, according to Dr Doherty, death should be referred rather to a deprivation of the placental influence, which some writers, without sufficient reason he conceives, have denominated the powers of oxygenation. In the latter, too, dissolution is similarly produced, when the uterine contents escape into the abdomen, and even when the fœtus remains in utero, he assigns the fatal event, not to a drainage from the vascular, but to a shock upon the nervous system, just as occurs in concussion. On these accounts the still-born condition, if consequent on profuse menorrhagia, or laceration of the womb, cannot in his opinion, with strict propriety, be included under the head of death commencing at the heart. But as it is an office of the placenta to transmit from one individual to the other nutrient particles, he admits that the feeble, puny, almost lifeless state, in which the infant so frequently comes forth, in cases wherein the placental function has been interfered with by hæmorrhage in smaller quantity, but frequently repeated, does approximate to true syncope, the consequence of the offspring having been exposed to what may without inaccuracy be termed starvation. To syncope, too, the author assigns the imminent danger, which impends over the fœtus, when it presents by the feet, in consequence of the cord suffering such compression as instantaneously arrests the transmission of blood through it. The result of such an occurrence must be that the supply to the left side of the heart is at once cut off, just as if in the adult the pulmonary veins were rendered impervious, and that organ is then quickly disabled from maintaining a normal amount of pressure on the brain. The child at birth then presents all the appearances of a deep faint. There are thus two modes described, whereby pressure on the navelstring may prove detrimental to the fœtus; firstly, resulting from a sudden and total obliteration of its vessels, an almost immediate suspension of life, beginning at the heart; and, secondly, when in cases of prolapse it is subjected to only a moderate or intermitting force, a comatose condition, slower in its approach, having its seat in the brain. In the same way artificial delivery of a footling is fraught with a double danger to the child. Attempts at extraction made at an improper time, may be attended with a perilous failure of the heart, and from force, indiscreetly applied, may arise a concussion of the spinal marrow, equally deplorable in its results. Death having the heart for its salient point is also, he remarks, well exemplified by cases, wherein either from inattention at the birth bleeding from the cord occurs, or when the same accident attends ulceration at the umbilicus, after the navelstring has dropped. In arrested circulation from pressure on the cord, a fair prospect of success, he conceives, attends the employment of artificial respiration, and this is, in his opinion, just the case in which its timely and continued use is likely to be followed by the happiest results, owing to its power of unloading the venous trunks, and renewing the contractions of the heart. Dr Doherty next points out, that as the brain is liable to be the seat of congestion in the child newly born, so may the medulla spinalis in a similar way be deranged; the consequence of which condition is to paralyse the organs of respiration; and that after this morbid state has been in a great measure removed, a minor degree may persist, or at a somewhat later period arise, from which, as from its congener in the brain, injurious results ensue. Cases of this kind, from the violent spasms which attend them, frequently bear a great resemblance to that more fatal malady trismus nascentium. Examples are given to contrast these two affections, and the writer expresses it, as his opinion, that it is from inattention to the distinctive characters he lays down, some authors have been led into a belief of the curability of trismus. But it will be found, he says, that in the disease, which is remediable, the mouth, instead of presenting the peculiar features of a firmly closed jaw, and angles of lips drawn directly backwards, is either widely opened, or drawn to one side, or if clenched by spasm, can with very little force be opened, as in the case recorded by Abercrombie, in which, after the death of the infant, a coagulum of blood was discovered, effused between the bones and the membranes of the cord on the posterior part, and extending the whole length of the cervical portion of the spinal canal. He next proceeds to the consideration of disorders of the nervous system, which may be termed secondary, those for instance arising from offending matters in the intestines. Having given instances of threatening apoplexy from deranged bowels, and of rachitic congestion from the same cause, he relates examples of an affection, to which the attention of the profession has been but lately drawn, a paralytic condition, unaccompanied by any indication of cerebro-spinal disease, and owing its origin merely to a deranged state of the intestinal secretions. This infirmity appears to him very much to resemble neuralgia arising from a similar source in the adult, only that a different series of nerves is engaged, and as in the one, so in the other the tonico-purgative treatment is found most beneficial. In one of the cases, which he refers to this source, the paralysis engaged the muscles of the neck, so that though the infant had the power of rotating the head when it was supported in the upright position, it was unable to prevent its falling backwards, nor could it well restrain its motions forwards. The author, in the next place, alludes to the fact, that infants in many instances appear to be predisposed to convulsions by the state of the mother during gestation and labour. At all times in the female, the circulation in the abdomen and uterine system manifests a great liability to be deranged by shocks, acting on the nervous system; and thus it is probable that a fright to the mother, while pregnant, may be the means of producing nervous disturbance in the child after their connexion has been severed. Convulsions also frequently ensue in the children of those who have themselves had convulsions during gestation or labour, if they chance to survive their birth. Diseases of the parent, too, by which the fœtus can be contaminated, may be a source of infantile convulsions. In the same way, medicines administered during pregnancy, may affect the fœtus in utero; and it is strange it is not always those which require to be given to infants with great caution, which produce such effects. Thus, mercury, which they bear well, if given so as to affect the parent's system, while gestation exists, is very liable to destroy intra-uterine life, but opium may be exhibited at this time with the utmost safety, although it so readily affects children after birth. Dr Doherty concludes his paper, by observing, that paralysis of certain muscles, merely local in its nature, may result from injury done to a nerve during labour, either by pressure against a resisting point in the pelvis,—as is particularly liable to occur in face presentations, in which, however, the distortion must not be confounded with that arising from tumefaction—or by the application of the forceps to the head, or the blunt hook to the groin. Two examples are given in illustration of this affection.—Condensed from the *Dub. Med. Jour.* for March 1844.

CASE OF FATAL HÆMORRHAGE FROM PERFORATION OF THE AORTA BY FALSE TEETH IMPACTED IN THE ŒSOPHAGUS.

By JAMES DUNCAN, M.D., one of the Surgeons to the Royal Infirmary, Edinburgh.

—— Calder, aged 22, Edinburgh, March 9, 1844, had lost his two superior anterior incisors when a boy, by an injury received when playing at ball. Being a dentist's workman, he made at his spare hours artificial substitutes which he had worn for the last three months. These were intended to be removed at night, and in consequence of this, as well as to prevent them from being seen, he had made the gold plates, by means of which they were attached to the adjoining teeth, as little projecting as possible, compatible with the retaining them in position. His master had repeatedly warned him of the danger attending the wearing them during sleep. On the 28th February last, he had gone to rest with them as usual. In the morning, the teeth were amissing; and after a fruitless search for them amongst the bed-clothes, he became convinced that he must have swallowed them. He was further confirmed in this opinion by the difficulty in swallowing which he experienced, and by the sharp pain which he suffered when the attempt was made. He was naturally much alarmed by the accident, and in consequence applied to Mr Syme for assistance. Mr S. passed a probang, and detected a foreign body in the œsophagus, considerably below the cricoid cartilage, and much beyond the reach of the ordinary forceps used for extracting foreign bodies from the gullet.

Mr S. now recommended his removal to the hospital; and there introduced a probang with threads passed through the bulb, the other ends being retained in the hand, trusting that if the bulb could be carried beyond the foreign body, it might be entangled by them, and thus removed. Nothing, however, was detected, and it was believed that it had found its way into the stomach,—an opinion which was rendered the more probable by the fact, that the difficult deglutition was by no means so great as previously. So considerable indeed was the relief, that the young man requested permission to leave the hospital the same evening. It was thought unsafe to comply with this request, and he remained in hospital nine days, still suffering from the fixed pain already alluded to, and occasionally spitting small quantities of blood, but without complaining of much difficulty in deglutition. The pain was consequently regarded as merely the effect of some injury inflicted by the foreign body during its passage downwards, and it was thought unadvisable to make any farther examination during that period. From some cause or other, he left the hospital on the evening of the 9th day, and returned to his own home.

Next morning, the 9th of March, I received a hurried call from his mother. She stated that her son had risen from bed, and that in crossing the room towards the window, he had become suddenly faint and giddy, and had vomited a mouthful of blood. I called upon him as soon as possible, and found that during the absence of his mother he had slept a little, but still complained of great debility, and of some slight difficulty in breathing. His face was pale, and the skin rather cold, but the pulse was of moderately good strength. From his description of what had taken place, I was led to believe that the foreign body had been dislodged from its situation, and that it was possibly within reach of the forceps, with which I had provided myself. I accordingly requested him to sit up by the side of his bed, to enable me to make the necessary examination. This he did with ease, and without much assistance, expressing great anxiety to have something done to relieve him. The act of depressing the tongue, to enable me to introduce the forceps, produced vomiting, and a mouthful of dark fetid blood was discharged. This was immediately followed by another but much larger quantity of fluid of the same description, perhaps about eight or ten ounces, and the false teeth were heard to rattle against the vessel into which it was received. The patient was immediately aware of this, and his friends were overjoyed at what had taken place. Another mouthful of the same fluid was then ejected; an interval of a few seconds elapsed, and then a mouthful of bright arterial blood was discharged; a second, and a third followed, the lips became livid, the pulse at the wrist ceased, the patient gave one or two convulsive sobs, and expired.

Autopsy.—The pharynx, the œsophagus, and stomach, along with the carotids, subclavians, and arch of the aorta, were removed entire, a ligature having previously been thrown around the duodenum to prevent the escape of the blood which had accumulated in the stomach, and so enable us to form an estimate of the quantity which had been lost. The œsophagus, stomach, and duodenum were found distended with pretty bright arterial blood, not less than eight or ten pounds. The pharynx and œsophagus were laid open by an incision posteriorly, carried as low as the cardiac orifice of the stomach. About four and a half inches from the rima glottidis there was an ulcerated perforation of the anterior part of the œsophagus, of about three-fourths of an inch in length, and three lines in breadth, passing obliquely upwards from the right to the left side. The edges of the perforation were rounded, and there was considerable surrounding injection of the mucous membrane. By this opening the probe could be readily passed into the aorta; but the latter vessel was not laid open at the time, it being thought better to immerse it for a day or two in spirits before doing so. On laying open the aorta subsequently, a perforation of about the size of a large crowquill was found, about half an inch below the origin of the left subclavian artery. The opening was irregular in form, the edges everted, at the lower part there was a pretty firm adherent coagulum. There was little or no vascular injection around this opening. The artery was otherwise perfectly healthy.

A sketch is given of the false teeth, along with another, showing the point at which the aorta was wounded. The gold plate to which the teeth were attached was pretty large, adapted to the shape of the palate, immediately behind the incisor, canine, and bicuspid teeth, on either side, with projections corresponding to the spaces between these teeth. The two last of these projections on both sides were large and pointed, with almost a cutting edge. The space between the two terminal projections measured one inch and five-eighths, and the breadth of the plate behind the incisors measured fully three-eighths of an inch. One could scarcely conceive a more dangerous weapon, or one more likely to be followed by fatal consequences, than that I have just described, when lodged in the situation in which this one must have remained from the time of the accident, in order to have produced the extent of ulceration met with on dissection. Its form readily explains how it could not be felt, on the second introduction of the probang, and offered no resistance to the passage of the instrument downwards. From the curve which it describes, and from the stretching of the œsophagus between its two terminal points, ample space must have been left for the passing of the instrument; and from the manner in which it must have got impacted after the first passing of the probang, it would present superiorly an edge not much exceeding in thickness that of an ordinary sheet of writing-paper, so that the bulb would readily glide over it without any resistance being met with.

In every point of view the case was an exceedingly alarming one. If the teeth were allowed to remain in the œsophagus, they could scarcely fail to induce fatal consequences; and if they passed into the stomach, the result would in all probability have been the same, although very dangerous bodies are recorded as having passed the whole length of the intestinal canal without injury. Even had they been within reach of the forceps, and grasped by them, or had they been entangled by the threads attached to the probang, their removal must have been attended with very great danger, and might have proved instantaneously fatal, from the laceration of the important parts in the vicinity. This case also affords an instructive example of one of the many modes in which foreign bodies lodged in the œsophagus may prove fatal, and inculcates the necessity of removing them as early as possible when their removal can be effected.

Foreign bodies lodged in the œsophagus may lead to fatal consequences in a variety of ways. When large, the first danger to be dreaded is that of suffocation: this may take place instantaneously before assistance can be afforded, and many cases are recorded in which death has been produced in this manner. Should the foreign body not be so large as to induce asphyxia, but remain impacted in the œsophagus, various other results may follow. Inflammation of the surrounding parts, leading to suppuration, may supervene, and the foreign body thus being set free, may either descend into the stomach, or may be rejected by the mouth along with the purulent matter. Extensive suppuration of the surrounding soft parts may on the other hand take place, and may, as has not unfrequently occurred, lead to fatal consequences. Numerous cases of this description are recorded; amongst others, one by Hofer, in which an abscess formed, and gave way into the chest, death being the consequence.

Sir G. Ballingall has kindly communicated to me the case of a soldier under his care in India, in which death followed pretty extensive gangrene of the surrounding parts. The man, on one of the anniversaries of the king's birth-day, when in a state of intoxication, was eating his curry hurriedly, and in doing so, swallowed a portion of bone. The probang was passed, but nothing could be detected. He remained in the hospital for ten days, and then left it, but returned some time afterwards and died. On dissection, the bone was found impacted in the gullet, and the surrounding soft parts were in a state of gangrene.

In some few cases, the foreign body, after inducing suppuration of the soft parts in the neck, has escaped externally on the spontaneous giving way of the abscess, or has been removed by incision. One or two are recorded, in which the trachea has been perforated by ulceration, and in this manner also the accident may lead to a fatal result. In some few instances the foreign body has formed a pouch for itself, and has remained there for years, and afterwards been ejected by vomiting. One or two cases are related, in which the foreign body had been expelled after the lapse of fourteen or sixteen years.

Death by hæmorrhage, as in the case I have related, is not so rare as I was led to believe, before consulting the literature of the subject. Many cases in which this occurred, are met with in different works, the hæmorrhage having followed perforation by ulceration of the different large vessels in the vicinity, at periods more or less distant from the date of the accident. In the *Dictionnaire de Médecine*, 1840, three cases are referred to as having terminated in a similar manner to the one I have related; one by Martin, in the case of a soldier who had been in the habit of swallowing pieces of money for wagers; these he generally passed by stool, but at last he suffered from his folly. Fifteen days after one of his exploits, he perished from vomiting of blood; and on examination, the coin, which had not been passed, was found to have penetrated the aorta, nearly at the same point as in the case I have recorded. The two other cases, the particulars of which I have not been able to obtain, are related by Wagret, and Saucerotte. The carotid has been wounded in several instances. One is referred to in the same work as recorded by Dumoustier: I append another as related by M. Begin, surgeon-major at the Val-de-Grace. " A soldier, while eating his soup, swallowed a piece of bone, which stuck in the œsophagus. Attempts to push it on towards the stomach were made, and seemed to be successful. Soft and liquid food could now be taken without difficulty, and a probang, upon being introduced, readily reached the stomach. The patient seemed to labour under no further inconvenience. He left the hospital, but in the course of a month he returned again, complaining of a sharp pain in the left side of the neck. By the employment of antiphlogistics, his ailment was removed, and he left the hospital once more. The pain, however, which never entirely left him, except for short intervals, became again severe; the patient returned for the third time to the hospital, not, indeed, for the particular accident in question, but for a gonorrhœa which he had contracted. Every thing seemed to be going on well, when he suddenly threw up large quantities of blood, perhaps to the amount of seven pounds. The hæmorrhage presently ceased, but the next day it returned, and proved fatal. On examining the body, there were found in the œsophagus, about its upper third part, two parallel ulcerations; that on the right side nine lines in breadth, and that on the left twelve. Opposite the latter there was an adhesion between the œsophagus and the corresponding part of the carotid. In this vessel, moreover, erosion had produced a small opening, about a line in diameter, which proved to be the source of the hæmorrhage."

Guthrie relates a case, in his work on the arteries, in which both carotids were wounded from swallowing pins, a soldier having done so in order to get his drill-sergeant into a scrape. Another is related by Mr Bell of Barrhead, in the *Medical Gazette*, February 10, 1843, in which the right carotid was perforated by a needle, which had been accidentally swallowed. The pulmonary artery has been wounded, in one case communicated by M. Bernast of the Toulon Hospital to M. Begin. " A young soldier thought he felt, while eating soup, that he had swallowed a sharp bone, or a pin; consequent to which he experienced a pungent, lancinating, and occasionally insupportable pain. On entering the hospital, he was treated with antiphlogistics, but without success; the pain increased, and kept the unfortunate patient in restless misery. Nausea at length supervened, and he threw up some ounces of blood. Eventually he was seized with convulsions, and he died on the eighth day. On opening the body, a large quantity of blood was found in the chest, especially in the right side. The heart and aorta were sound; but on turning aside the pulmonary artery, there was found in front of the œsophagus a flattened, sharp-pointed bone, indented on one of its edges, and resembling one of the bones of the nose. This had produced an opening in the œsophagus, and a corresponding, though very minute one, in the pulmonary artery, at the spot where this vessel divides in order to be distributed to the lungs. The point of the bone was seen in actual contact with the lesion." (*London Med. Gazette*, 11th May 1833, p. 175.)

The right subclavian has also been wounded in one case, as related by Mr Kirby in the *Dublin Hospital Reports*, vol. ii. In this case, the right subclavian rose from the left side of the arch of the aorta, and passed to the right behind the œsophagus.—*Northern Journal of Medicine*, May 1844.

POLYPUS OF THE HEART. BY DR C. J. B. WILLIAMS.

"It has often been a matter of question, where these tumours have been found in the dead body, whether they were formed altogether after death, or existed in part before it. If they are formed for any considerable time before death, I have no doubt but they must produce impediments to the circulation; and there is a certain class of symptoms resulting from them. The arguments on which it is contended that these polypi do form before death, and from some diseased action, are: in the first place—that clots are sometimes found, exceedingly tough and firm, not clots of coagulated blood merely, but of fibrine, which is extremely firm, very tenacious, and exhibits different degrees of solidity in different parts, as if one part had coagulated some time before the other parts. In the second place, that there has been found, in some cases of these concretions, not merely a fibrinous matter in its usual state, but fibrinous clots which appear to have been softened for a long time, and very closely allied to tubercle. Gulliver has thrown considerable light upon this subject, by showing this substance to be actually broken-down fibrine, and not pus; and he has shown that similar matter may be produced by keeping fibrine for a time—two or three days—in a temperature like that of the human body, and protected from the air. These fibrinous clots are found in the large veins, and in other vessels. This argument goes in favour of the supposition that these clots do sometimes form before death. Another conclusive argument in favour of the opinion that the fibrine is formed before death, is, that the clots so formed are found attached, for instance, to the *carneæ columnæ*, passing through their fibres. In several instances, I have observed the tendons of the mitral valve passing through the clot, which, instead of pressing the fibres closely and firmly together, has formed around them a sort of oval hole, the tendons passing through it to their attachment; pretty obviously showing that these tendons have for some time continued to be in motion, and have thus wrought out a sort of channel for themselves. This is a most conclusive fact that polypi are formed before the motion has ceased in the heart. They form sometimes a sort of mould of the ventricle, or of the auricle, in whichever cavity they may be found. You will, in such cases, expect a greatly weakened circulation; and also it is not at all improbable that there may be excessive gasping and faintness, and symptoms of obstructed circulation, with lividity.

With regard to the physical signs:—a muffling of the sounds is produced, and the natural pulsation of the heart is converted into a sort of tumultuous action; there may likewise be a kind of murmur or a whiffing sound produced. In some instances in which polypi have been supposed to exist, and the circulation has been extremely weak, the symptoms have afterwards disappeared. I have seen three or four instances where I have been led to suspect this was the case. I have found cases of diseased heart with a tumultuous action, no pulse at the wrist, or scarcely any, and the various signs of an obstructed circulation; and in the course of a few hours, the action of the heart has returned, and the symptoms have greatly dissipated. With such a case as this, the treatment should be to try to break up the clot thus formed, or to prevent its increase. Alkalies or solvents may be used, as the salts of potash, &c. It becomes a question whether injecting these substances into the veins might be of any use? If anything of the kind is to be done, I should prefer the salts of soda. The chief thing is to prevent the formation of the polypi; so that whenever there is a failing of the action of the heart, we should administer a stimulant, which prevents the torpid action, and consequently the accumulation of the blood in the interior of the heart. An inflammatory state of the blood, tending to deposition of its fibrine, where the blood abounds in fibrinous material, constitutes a state in which polypi form in the greatest abundance. Under these circumstances, blood-letting may be a preventative. However, this is a matter too speculative to occupy much of our attention."—*Lecture reported in Med. Times.*

ON THE FORMATION OF CLOTS IN THE CIRCULATING SYSTEM IN CERTAIN DISEASES, AND PARTICULARLY IN CASES OF PNEUMONIA COMPLICATED WITH DELIRIUM.

BY M. MALHERBE.

M. Malherbe has directed himself to the investigation of the questions, Why are clots of more or less recent formation found in the circulating system after death from certain diseases, and in some cases only? And why in certain other cases do we find the blood fluid, and often even in a more or less advanced stage of putrefaction? A point to which he has particularly directed his attention is the presence of clots in the cerebral sinuses of patients dying of pneumonia complicated with delirium. He has no hesitation in ascribing delirium to this cause, both in pneumonia and other acute affections, even where no opportunity has been given of a post-mortem examination. At the same time he admits that delirium may arise in acute diseases from other causes. As to the modes of formation of clots in the circulating system, he points out the following:—1. Retardation of the current of blood. 2. An excess of fibrine in the blood. 3. The presence of pus in the system. 4. Acute or chronic inflammation of the walls of the heart, or of the vessels. Finally, as to pneumonia in particular, he has arrived at the following conclusions:—1. That pneumonia frequently gives rise to the formation of clots in different parts of the circulating system. 2. That sometimes these clots occupy the greater part of the venous system, and appear to have been formed at different periods. 3. The danger in pneumonia is partly increased when such clots form rapidly in the cavities or obliterate the sinuses of the dura mater, and this secondary lesion is the cause of death in such cases. 4. In the treatment of pneumonia, and all cases where there exists a cause capable of producing coagulation of the blood, too copious bleeding, carried, that is to say, to syncope, or too great and too permanent a depression of the pulse, should be avoided.—*Jour. Méd. de la Loire Inférieure*, quoted in *Gaz. Méd. de Paris*, 9th March 1844.

CASE OF TUMOURS ON THE BRANCHES OF THE SPINAL NERVES.
BY JAMES BRUCE, M.D., Liverpool.

Peter Heron, aged 40, died of œdematous laryngitis. On making a *post mortem* examination of his body, a firm white tumour, the size and shape of a hen's egg, and of cartilaginous consistence, was found attached to the outer side of the left forearm, near the elbow. It was overlapped externally by the *supinator longus* muscle, and internally, by the *flexor carpi radialis*. It was intimately adherent to a branch of the radial nerve, the filaments of which appeared to be continued over it. On examining the trunk of the radial nerve, it was found studded with small fusiform ganglia, and similar enlargements were observed in the course of the sciatic, crural, and other branches of the spinal nerves. They were at first supposed to be distinct tumours attached to the neurilema of the nerves, or imbedded in their substance; but on farther dissection, each nervous fibril entering into the ganglia, was discovered to be the seat of a separate swelling.

The patient had never suffered any uneasiness from these ganglia. Several tumours had been removed from his back by a surgeon some years before, but, like that in the arm, they had occasioned no inconvenience except from their bulk.—*Edinburgh Medical and Surgical Journal*, for July 1844.

SINGULAR CASE OF ENCEPHALITIS. BY DR GUISEPPE PERINI.

The subject of this case was a Milanese lady, aged 15, previously in the enjoyment of the best health. She had menstruated twice, and at the time of the attack was within eight days of her third period. For some time previously she had been annoyed with shooting pains, noise in the ears, and nocturnal cramps. Sometimes also the movements of the limbs had not responded to the will; bright flashes had appeared before her eyes, and her usually tranquil slumbers had been disturbed with dreams. In the month of April of the past year, while at her dinner, she was seized with an irresistible desire to yawn, but it did not prevent her from finishing her meal, which she took as usual with appetite. But speedily the yawns became more frequent and continuous, till at length there was an incessant opening and shutting of the jaws, accompanied with a feeling of anxiety and distress, as if the yawns were not sufficiently frequent or deep to give relief. Loss of vision next came on, and accompanied the continual yawning, and this was succeeded by delirium, all in the space of twenty-four hours. When seen by the author, the following was her condition:—A previous bleeding had removed the delirium,—she was seated, pale and exhausted-looking on her bed, the body inclined forwards, and yawned incessantly. An occasional expression of suffering escaped her, between the incessant respiratory movements; then, as if fatigued, she threw herself down upon her bed, but only to resume immediately her former position. She complained of a deep-seated obtuse pain in the head, which was increased on pressing the middle of the occiput; it was however neither very severe nor constant, and did not appear in any way connected with the alternations of the yawning. The sensibility of the body, excepting one part, where it appeared to be abolished, was on the whole rather augmented. The hands were the parts without sensibility, and were besides cold, blue, and could be pinched and irritated without its being felt. The power of vision was gone, and bright flashes of light darted before the eyes of the patient, whatever was the state of the light in the chamber. There was no convulsive trembling of the eye-balls, and no pain in them on pressure. The pupils were slightly contracted, but sensible to light. The sense of taste appeared normal; those of smell and hearing were intensely acute. The ticking of a small watch in the pocket, not heard by any one present, was so painful to the patient that the bearer was obliged to leave the chamber. The intellect appeared clear, the patient answering promptly by signs, to all the questions that were asked of her. Sleep was entirely prevented by the continual yawning. The only peculiarity in the muscular apparatus was an occasional shock affecting the left side of the body, by which means the forearm was forcibly bent upon the arm, and the arm raised upwards and outwards; the thigh and leg being at the same time similarly affected. There were also occasional cramps in the calf of the leg on the same side; the tongue was slightly coated, and the bowels inclined to be costive, but in other respects the digestive functions appeared to go on naturally. Urine natural, and passed without difficulty. The impulse of the heart was increased and heard over a larger space than usual. The carotids and arteries of the head pulsated strongly, contrasting with the pulsations at the wrist, which were weak. The sounds of the heart and respiration were natural.

The delirium was, as stated above, at once removed by a bleeding, but the other symptoms continued unchanged for about thirty hours; when the pain, which had been confined to a single point of the head, extended itself gradually downwards, along the whole course of the spinal column, and became so excruciating as to render intolerable the slightest touch of the scalp or the processes of the vertebræ. At the same time the yawning suddenly ceased, and the patient fell into a state of profound sleep. Persevering efforts were made for the space of half an hour, to arouse her from this sleep, but in vain, when a sudden yawn awakened her, and she began to sing some music which she had seen before her illness. Next, she recited in French some fables she had learned in that language while at school, and concluded by translating them into Italian. And if any word had been improperly rendered, she began her translation again and corrected the error, just as if she had had a book with the right translation before her. This was the more remarkable as she had not manifested the same proficiency in the French language during health; and in music she had never been instructed, nor had she a natural taste for it.

The menstrual discharge appeared in the midst of this scene, and lasted two days, but without any change in the continued alternations of sleep, singing, French recitation, and translation of it into Italian. After four days the above phenomena began to come on less frequently, the yawns occurred seldomer, and some refreshing sleep was obtained. At length they occurred only twice in the day. The power of vision also returned gradually, and the sensibility of the surface became normal, and the symptoms left her after an illness of about eight days; in the course of which she had been largely bled, freely purged, salivated, and taken quinine. But occasional threatenings of a return, which assumed a periodic character, annoyed her for some days. By the end of April however, she was completely cured, and at the time of the report had continued for some months to enjoy robust health.

The author is of opinion that the disease consisted in inflammation of the medulla oblongata, extending itself by continuity to other parts of the base of the brain, and along the spinal cord. In support of this opinion he enters into a number of physiological details as to the effects of irritation applied to these parts, and the nerves arising from them, and attempts to account on this principle both for the phenomena themselves, and for the order of their appearance. —*Gazetta Medica di Milano*, 9th March 1844.

SURGERY.

OBSERVATIONS ON THE RADICAL CURE OF HYDROCELE.

By William Henry Porter, M.D.

I have operated frequently for the cure of hydrocele by injection, and, I suppose, with as much success as others have experienced; but I never could consider it a safe or satisfactory operation, or propose it to a patient with the same confidence which I have felt in other cases. I have known it to be almost abandoned in the private practice of some eminent surgeons, who never advised it, and performed it, when obliged so to do, with evident reluctance. I was induced to make trial of other operations, and, after the experience of several years, have adopted that one which I am about to describe, which, if not altogether free from the objection of a possible relapse, or return of the disease, is not so liable to be followed by the severe and violent inflammations that render the operation by injection so perilous.

This operation is partly that by incision, the only difference being, that instead of dividing the tunica vaginalis in the entire extent of the tumour, my incision extends only from an inch to an inch and half in length; and partly that by the tent, an operation first proposed (it is said) by Franco; and revived and recommended by the celebrated Larrey. Having first punctured the tumour in order to examine the state of the parts, and satisfy myself that it is a case in which an attempt to cure the disease radically may be safely made, or at least in which such an attempt would be justifiable, I allow the sac to fill again. When the disease has re-appeared, and the tunica vaginalis is as much distended as it previously had been, I perform the operation thus: Having that part of the scrotum in which I intend to operate, shaved, I make the incision of the length above mentioned, down to the tunica vaginalis, and examine carefully whether any vessel has been wounded that could possibly furnish a considerable quantity of blood. I then pass a bistoury into the tunica vaginalis at one extremity of the incision, out at the other, and divide it by a rapid withdrawal of the instrument. Having completed the incision, a tent of rolled lint, moistened with oil, and secured with a ligature, so as to be easily withdrawn, is introduced. The operation is then completed. The patient may be placed in bed. On the succeeding day I generally bleed from the arm to the extent of ten to twelve, or fourteen ounces, and particularly if the scrotum is red, and shows a tendency to inflammation. Latterly, I have adopted this practice as a preventative in all cases, with apparently the most satisfactory results. The tent is left to become loose, and drop out of itself, which usually takes place on the third or fourth day, and need not be replaced; but it is desirable to break up any adhesions that may be found between the lips of the wound, and to introduce the finger occasionally into the cavity of the tunica vaginalis until the sixth, after which it may be treated with light superficial dressing, and the cure is generally perfect in about three weeks.

I have practised this operation for fifteen years, and, comparing it with others, have not much reason to feel dissatisfied. At first I was in the habit of plunging the bistoury at once into the tumour, and completing the incision to the requisite length, by making it cut its way outwards rapidly and at once. This gave an appearance of great simplicity to the operation, but in some instances caused the fluid to become extensively infiltrated in the cellular tissue, which looks unseemly, although really of no consequence, as it is absorbed in a few hours.—Abridged from the *Dublin Journal of Medical Science*, for July 1844.

SEVERE INJURY OF THE ABDOMEN, WITH PROTRUSION OF THE INTESTINES, FOLLOWED BY RECOVERY.

By Hattersley P. Worthington, M.D.

Nov. 8, 1843. I was called to John Newcomb, labourer in the iron mines, aged 40, tall, robust, healthy, and of steady habits. He was lying in a shanty or cabin an eighth of a mile from the bank. The account given me was, that about thirty minutes before I saw him he was engaged in shovelling earth into a cart, when a portion of the perpendicular bank, beneath which he was working, caved in, falling upon his legs, and projecting his abdomen against the tail of the cart; the horse at the same time starting forward lessened the force of concussion. He was conveyed on a board to the cabin where I found him. Before removing his clothes I perceived a portion of the intestines and mesentery, comprising about 15 inches of the colon, and 30 of the small bowel, protruding from a wound in the right groin, and lying upon the upper part of the thigh. Raising this mass, I perceived a wound extending along the whole course of Poupart's ligament, and downwards an inch between the genital organs and thigh; the edges of this wound were clean and uncontused, as though cut with the scalpel: the intestines showing no marks of violence. This wound was evidently produced by the contraction of the abdominal muscles during the fall.

A little to the left and below the umbilicus, there was a smaller wound, from which a small fold of the intestine presented itself. The edges and neighbourhood of this gave evidence of direct violence from the cart. The patient complained of no pain or uneasiness excepting an oppression in the region of the stomach, which spontaneous vomiting relieved by evacuating his dinner; the pulse was about 70, full, and soft.

I proceeded to reduce the intestines, in which I succeeded without difficulty; bringing the wound together by the quilled suture, making three stitches at the distance of two inches apart. The smaller wound I closed by a few adhesive strips. The dressing, which occupied considerable time, caused my patient but little suffering. I had given him 60 minims (drops?) tinct. opii, and his pulse was less frequent than when I commenced.

There appeared at the wound hæmorrhage internally, though he gave no evidence of its being considerable.

On the 10th, there was a *sight tympanitis* and *tenderness*, with *increased thirst*, and harder pulse, but these symptoms yielded rapidly to fomentations applied to the abdomen. The bowels were now, for the first time, moved by an enema.

On the 11th, the patient was easy, surface cool and moist, pulse 60, regular and full; he sleeps well and soundly during the night.

On the 12th, he was removed by my directions to the Baltimore Infirmary, a distance of 10 miles, where, under the care of the distinguished Professor of Surgery of the University of Maryland, he has advanced rapidly to recovery.

The sketch I have given will serve to illustrate the question under consideration, and will furnish another evidence in favour of Dr Blundell's views. That an abdominal wound of 8 inches in length, besides the smaller one, under such unfavourable circumstances, should have given rise to inflammation at no time requiring the abstraction of a single ounce of blood, is certainly a paradox to many of our profession.

A determination of what is "the rule," and what "the exception in such cases," would tend to impart a very useful confidence in this most important department of surgery. I presume there are many other young surgeons, who, with myself, have had melancholy cause to deplore their early acquired dread of this bugbear peritonitis; and have found, when too late, that they have opened their heavy battery of antiphlogistics against an imaginary foe.—Abridged from the *Philadelphia Medical Examiner*, for 9th March 1844.

REMOVAL OF A KNIFE-BLADE FROM BETWEEN THE TRACHEA AND RIGHT CAROTID ARTERY. By R. T. HUNT, Esq., Consulting Surgeon to the Lying-in Hospital, Manchester.

March 23, 1843. James Knight was wounded in the neck, whilst on the ground, by a man who had knocked him down and fallen with him. The surgeon to whom he applied told him that the windpipe was cut open, but after carefully examining the wound, stated that he could find no foreign body in it

When I saw him on the 13th of April, three weeks after the injury, he was suffering from urgent dyspnœa, oppression, and tightness of the chest, and fixed pain of the right side, extending through to the inferior angle of the scapula. His face was flushed, his pulse quick and throbbing, and he could not lie down.

There was a recent cicatrix about an inch above the interclavicular space, which felt much indurated, and my impression at the time was, that the tracheal cartilages had been lacerated, and had united very unequally. I bled him to 12 ounces from a large orifice, and complete syncope followed. When he recovered from the fainting, the breathing was much freer, and he felt relieved. He was treated with mercurials, hyoscyamus, and common aperients, and continued improving, but the fixed pain in the thorax did not entirely subside.

May 1*st*. He called upon me to inform me that something had made its appearance in the situation of the wound, and upon examination, I found the cicatrix ulcerated, so as to expose a small black angular metallic substance ; and upon endeavouring to remove it with forceps, it was so firmly impacted, that careful dissection was required for its removal. I extracted it in the presence of Knight's father and a police officer.

Length of blade, . . .	2 inches 6–10ths.
Width	7–10ths.
Thickness at the back, . .	1–10th.

When I withdrew the blade, its point apparently rested obliquely against the body of one of the cervical vertebræ, and its back was directed backwards and upwards. The bluntness of this point and of the edge of the knife will account for the carotid and other important structures so fortunately having escaped being injured.

I gave him an opiate and enjoined absolute rest and antiphlogistic regimen. He had a slight tickling cough during the next 24 hours, and the expectorated mucus was streaked with blood. The fixed pain in the chest was never felt after the extraction of the blade, and by the 10th of May he was perfectly recovered.

March 23, 1844. I have to-day heard that he has had no chest affection since the last report.—*Provincial Med. and Surg. Journal*, for April 1844.

Wound of the Right Lung with Protrusion.—Recovery.

By Dr Barbieri Angelo.

A lad of the age of 13, fell, while playing, from a considerable height, and struck against the sharp point of the branch of a tree, which had been cut down, receiving a wound about three inches long, on the anterior part of the right side of his chest, extending transversely from the fifth or sixth rib. Dr Angelo was mmediately called in, who found much frothy blood issuing from the interior of the thorax, in addition to which it appeared to exude from a rose-coloured elastic tumour as large as the fist, with a transverse wound on its surface, which was evidently a portion of the inferior lobe of the lung. There was much oppression and anxiety, mortal paleness of the countenance, absence of the pulse, cold sweat and cold extremities, all which plainly indicated the imminence of he danger. There was, however, no bloody expectoration. The protruded porion of the lung was reduced with difficulty, and the wound brought together with stitches. The patient took about three days to recover from the first shock of the accident; after that, as re-action came on, he was treated with repeated mall bleedings, and antiphlogistic remedies. The wound gradually healed well, and the injured lung began to resume its functions, and in about six weeks the patient was almost entirely cured.—*Gazetta Medica di Milano*, 24th February 1844.

[The above case shows the possibility of cure in wounds of the lungs; as also hat the absence of bloody expectoration in wounds of the thorax is, (as Benjamin Bell remarks,) no proof that the lungs are uninjured.]

ABSCESS OF THE TONGUE. BY DR MOLLER.

A locksmith applied for advice regarding a swelling under the chin, with violent pain at the root of the tongue, almost wholly preventing deglutition. Upon examination, a large tumour was found in the tongue, that nearly filled the entire cavity of the mouth; it was dark-coloured and fluctuating, and there was no time to lose. A bistoury armed with linen to near its point was plunged into the swelling, whereby a great quantity of thin pus was evacuated, and the patient straightway relieved. The wound healed in eight days. The tumour under the chin was treated in the same way. The patient was sixty years old, and of phthisical habit—a circumstance in accordance with what certain writers had advanced—namely, that phthisical individuals are more especially prone to this rare kind of abscess.—*Oppenheim's Zeitschrift*, as quoted in *Med. Gazette.*

ENTEROTOMY, PERFORMED IN THE LUMBAR REGION, WITH SUCCESS, AND WITHOUT OPENING THE PERITONEAL CAVITY, ON A FEMALE, AGED 53. BY J. Z. AMUSSAT.

Though the possibility of forming an artificial anus in the large intestines without opening the peritoneum, has been long entertained, yet the unfortunate result of many attempts had given rise to doubt upon the subject, and led very much to the abandonment of the practice. The practicability of performing the operation without implicating the peritoneum, had also been denied. After minute examination, I demonstrated the possibility of success, and the great superiority of this operation over that of M. Littre. I submitted my demonstrations to the Académie des Sciences;—its able commission reported most favourably respecting them, and I was honoured by the Montyon prize. On the present occasion, I take leave to detail to the Academy, the particulars of an interesting case which was in every way successful, and which proves beyond doubt, that lumbar enterotomy may be performed, in the adult, and in the child, with safety and success.

CASE.—*Complete obstruction of the intestine during twenty days, in a female aged 53. Tympanitis, vomiting, &c., precise seat of the obstruction could not be determined; establishment of an artificial anus in the left lumbar region by means of an incision into the colon, without opening the peritoneal cavity; cure.*—Madame B., aged 53, possessed an excellent constitution, and had always enjoyed good health; she menstruated at 14, was married at 24, and had three children, whom she did not nurse. Her menses ceased about four years ago, and about that period she had some slight hemorrhages. She never experienced any symptoms of uterine disorder.

The primæ viæ were in good order till the month of April 1843. At that period constipation appeared, and was combated by lavements, which the patient had never previously used. For the last four months especially, this state became aggravated, and the patient suffered much from sharp colic pains. About two months ago these pains became intense and frequent. The excretions, after the use of the lavement, were small, flattened, and ribbon-shaped, surrounded with glairy mucus and blood. Flatus was expelled with much force and noise.

The obstruction having become more obstinate, and the lavements failing in their effect, recourse was had to purgatives,—castor oil, pills, &c. From the 12th of June, notwithstanding all the means that were had recourse to, no stools could be procured, nor flatus expelled,—castor oil, croton oil, and purgative injections, produced no effect; the abdomen became gradually distended and tympanitic; vomiting, and colic supervened, with sharp pains in the region of the umbilicus.

On the 26th June I was called to see the patient, by my colleague Dr Schillot. M. Marjolin had previously been consulted, and advised the use of very large injections, and had thrown out the idea that an operation might be necessary. For fourteen days there had been complete obstruction of the bowels.

The belly was distended and sonorous at all points. No tumours could be discovered by pressure. No obstacle could be discovered on examination by the rectum, and the whole of the mucous membrane of that bowel, as far as could be reached with the finger, was found to be healthy. On examination by the vagina, the neck of the uterus was found somewhat low, and the fundus of the organ resting on the rectum, as in retroflection. There was, however, no abnormal sensibility of the organ. We advised the filling of the lower bowels with fluid to be continued, and the abdomen to be rubbed with a liniment, composed of the oil of almonds and laudanum, for the purpose of allaying the pains, which prevented the patient's obtaining a moment's repose.

27th. Patient in the same state,—the injections were administered several times during the course of yesterday; but the liquid returned without fœcal matter; only a little mucus and broken-down tissue could be discovered. No flatus escaped.

28th. Abdomen still distended and tympanitic; consequently it was exceedingly difficult to determine the presence of a tumour, and its precise locality in the intestine. The abdomen measured over the umbilicus, 83 centimetres, the same as during the preceding evening. Otherwise, the state of the patient was much the same. There was severe pain with bilious vomiting, general uneasiness, and continued want of sleep; pulse 96. Injections and anodynes to be continued.

The establishment of an artificial anus appeared to be more and more indicated, and we were convinced that speedily this means of relief must necessarily be had recourse to. We were, however, surrounded with difficulties similar to those which have occurred in most cases of this nature; we were ignorant alike of the seat and the nature of the obstacle. We were thus in a state of uncertainty, not as to the question of the operation, for it had become inevitable, but as to the region where it should be practised. Should the operation be performed in the left lumbar region, or the right? If on the former, might we not be below the seat of the obstacle? Nevertheless, taking into account the previous history of the patient, vague as it was, it appeared that
this was a case not of acute strangulation, but of chronic obstruction of the
large intestine towards its inferior part, since the constipation had existed for a
onsiderable time, had continued to increase, and for two months the pa-
ient had only passed, with great difficulty, and with the help of injections, thin
hreds, covered with mucus and blood. Recollecting, moreover, that organic
ffections of the large intestine, producing tympanitis, and the retention of the
æces, generally have their seat at the junction of the sigmoid flexure with the
ectum, we hoped it was so in this case, and that accordingly the operation
hould there be performed. There was, however, one method of clearing our
loubts left, namely, to ascertain the quantity of fluid that could be introduced
nto the intestine, by means of a good syringe. The indications for the opera-
ion were quite evident, but there existed no imperative necessity for immediate
nterference, the state of the patient was not so serious as to constrain us to
erform the operation, which should be had recourse to only when death ap-
eared near and inevitable. It was necessary to steer a middle course, between
recipitancy on the one hand, and temporising on the other.

29th. Same as yesterday. Nausea but no vomiting. Injections were con-
nued, and copious washings, (douches ascendantes) by means of Bizet's
pparatus. No fæces appeared in the liquid returned, but shreds merely of
roken-down organic matter. Forced injections were now tried; not with
e view of overcoming the obstacle, but for the purpose of ascertaining, by the
uantity of liquid introduced, the position of the obstruction. There are no
eans of assisting the diagnosis so good as this. The patient was placed with
er feet on the ground; the abdomen resting on the bed; one injection was
iven and easily retained, the whole of a second, however, could not be in-
roduced, and although the nates were strongly compressed, the liquid escaped.
was thus ascertained, that one injection and a third, administered by the
dinary syringe, was the quantity which the intestine could receive and retain.
he injection returned pure, but a portion was retained in the rectum, for on
mparing the quantity returned with that introduced, it was found that a

third had disappeared. The colic and pain were more severe than on the preceding days.

30th. No change. The patient begged that the operation might be performed. The distention of the abdomen had not increased, but the colicky pains were at times more severe than heretofore; there has been no vomiting. The douches and the injections had no effect. The wishes of the patient having been strongly urged, and the inefficacy of the means hitherto employed fully demonstrated, we resolved to perform the operation next day. But in order to strengthen and confirm our own views, we took advantage of the sojourn of Sir Philip Crampton of Dublin, at Paris, and requested him to visit the patient, and favour us with his advice.

1st July. There were present at the operation, MM. Crampton, Macloughlin, Berthes-de-Gray, Sédillot, L. Boyer, Filhes, A. Amussat, and Le Vaillant. After listening to a summary of the history of the case, M. Crampton examined the patient with great care and minuteness. He could distinguish no point of abdomen more than another, as the seat of the disease, after a careful exploration both by the hand, and by percussion. He could discover nothing either by the vagina or rectum, of a nature to indicate the precise seat of the obstruction, although he found, as we had already previously done, that the neck of the uterus was low, and its fundus lying upon the rectum. The abdomen was distended, much as the evening before.

The patient, having made up her mind to the operation, feared that our consultation would only delay what she called the moment of her deliverance.

M. Crampton having been requested to give his opinion, stated, that he could not decide as to the propriety of the operation from his individual experience, having never performed it under similar circumstances, but if it were decided that the operation for artificial anus was to be performed, he thought it should be done without delay, as inflammation might occur in the diseased portions of intestine, and extend to the peritoneum, an occurrence inevitable indeed if prompt measures were not taken, and one which would destroy the possibility of having recourse to the operation, which, after the facts we had published, was one of which he approved. The other gentlemen agreeing in the opinion clearly expressed by M. C., the question as to the time for the operation was disposed of, and there only remained the other, as to the place where the artificial anus should be made.

After considering, on the one hand, the chronic character of the disease, as already detailed, the relative frequency of organic strictures in the sigmoid flexure, the absence of fœces in the matters vomited, a common circumstance in cases where there is any lesion of the small intestines, or upper part of the large one; and, lastly, the impossibility of administering more than one syringeful and a third; and, on the other hand, considering the advantages arising from the establishment of an artificial anus in the left lumbar region, rather than in the right, advantages which will presently be demonstrated,—it was decided, notwithstanding our apprehensions, that the seat of obstruction might be higher than we supposed, that the operation should be performed on the left side.

A high bed having been placed in the middle of the floor, and covered with a mattress, the patient reclined on it with her face downwards, and in order to make the lumbar region more prominent, several pillows were placed beneath the abdomen. The left side now appeared more prominent than the right. After having marked, with ink, the space bounded inferiorly by the crest of the ilium, superiorly by the last false rib, and posteriorly by the sacro-lumbar and dorsal muscles, I made a transverse incision across this space, from three to four inches in length, and cut down till I reached the aponeurosis of the transverse muscle. Three small arteries, divided in the first step of the operation, were secured by torsion; I then cautiously divided the aponeurosis; a small pellet of fat immediately escaped through the opening in this membrane; it had the appearance of a strangulated knuckle of intestine. I then cut through this mass of fat, and saw a portion of intestine, red and resisting. In order to assure myself that this portion of intestine really belonged to the colon

I wished to open, I carefully examined the neighbouring tissues, and found that it did belong to it, as the external edge of the exposed quadratus lumborum lay in its true relation to the intestine. I was not, however, quite certain that it was the colon that was exposed. But by sponging the wound, and cleaning it by means of a jet of water, I perceived externally, on the portion of intestine before me, a yellow body, moveable during the acts of respiration, placed under the peritoneum, and appearing to be arrested by the limit of that membrane.

I still hesitated to puncture the portion of intestine thus laid bare, although it appeared, by its position, and its relation with the neighbouring parts, to belong to the colon; I believe it was impossible for any one to ascertain beyond a doubt, it was truly this intestine, and not a knuckle of one of the smaller ones. Nevertheless, feeling re-assured, by seeing the external limit of the peritoneum, I determined to transfix the bowel behind the spot where I believed the peritoneum to stop; this was done by means of a curved needle and thread. I then plunged a tenaculum into the intestine, and made a vertical incision with a pair of curved scissors, between the thread and the tenaculum. I immediately heard a hissing sound produced by the escape of gas from the bowel, and this was followed by yellow fœcal matter. Being thus assured of the result of the operation, or rather having attained the end I had in view, I fearlessly enlarged the opening in the gut, with the scissors, which readily allowed the gas and fœces to escape. Lastly, to finish the operation, which had succeeded beyond my expectations—for I was afraid of encountering difficulties much greater than those I had met with—difficulties and perplexities to be understood only by those who have experienced them,—I fixed the intestine to the skin, by three stitches of the interrupted suture, after having approximated it to the anterior part of the wound. An injection administered by the artificial anus I had established, brought away fœcal matter in abundance.

I did not deem it advisable to unite the posterior part of the wound by means of a suture, because in a similar case, where I had so acted, I was afterwards obliged to open up the wound, in order to allow the accumulated pus and fœces to escape.

The operation was borne admirably by the patient, who gave proofs of courage most satisfactory to the operator. After the wound was dressed, she was put in bed, and her pulse was neither more feeble nor frequent than before the operation. In the evening she was perfectly calm; no vomiting; fœces in abundance escaped from the artificial anus.

Next day, 2d July. Had passed a tolerable night, but her sleep had been continually interrupted, by the frequent changings occasioned by the enormous quantity of fœces which escaped from the artificial anus. She had been annoyed by slight colic, but had no vomiting; belly soft, tolerant of pressure, and reduced to the natural state; pulse 80-85. A few hours' sleep in the morning gave the patient a degree of satisfaction she had not experienced for ten or twelve days before. She mentioned on that occasion, that had it not been for her children, she would have thrown herself from the window, in order to put an end to her horrible and unceasing sufferings; she added, that occasionally forgetting her family, she wished it had been in her power to have seized the laudanum bottle, and terminated an existence which was altogether insupportable. Thus she waited for the operation with the greatest impatience. Her daughter informed us that she counted the hours previous to our arrival, as the eve of some happy occurrence.

3d July. Face calm, no fever; some hours' sleep during the night. Slight colic, originating in the hypogastrium, twisting round the umbilicus, terminating at the artificial anus, and followed by the escape of gas and fœcal matter. This circumstance was probably produced by the anti-peristaltic motion causing the fœcal matters to ascend from the seat of obstruction, considered to be in the sigmoid flexure.

Method of Stopping Hemorrhage from Leech-Bites.

In the *Recueil des Travaux de la Société Médicale d'Indre-et-Loire*, Dr Morand states that he has frequently arrested the bleeding from leech-bites by the following method. Take, says he, a mixture of six parts of olive oil and one of yellow wax; make a pellet of these, and apply it rapidly to each puncture, after having carefully wiped away the blood, an essential condition, for the slightest interposition of moisture prevents agglutination. By means of the finger this pellet is extended over the skin, so as to favour the adhesion. If adhesion does not take place and the blood still continues to flow, add a little more of the paste. A thin layer is the result covering all the punctures; its thickness should not exceed a centimetre. Should the mixture be too soft, its consistency may be increased by the addition of a little wax. After being exposed to the air for a short time, without return of the hemorrhage, cover it with a piece of fine linen. No compress is required.—*Journal de Médecine et de Chirurgie Pratiques*, July 1844.

Singular Cause of Error in Diagnosis of Affections of the Knee.

In the last *Concours* for the chair of Clinical Surgery in the Faculty of Paris, a singular case occurred, the diagnosis of which gave rise to a difference of opinion both amongst the competitors and judges, and in which, moreover, had an error been committed, the result might have been a serious operation. M. A. Bérard, the actual nominee to the chair, thought that he recognised the existence of a foreign body in the knee-joint of a patient affected with hydrarthrosis, and which had fallen to his lot as the subject of lecture. On examination he found, besides an effusion of serum, a distinct circumscribed tumour, of the size of an apricot stone; it rolled under the finger, and was situated at the external side of the knee, above the patella. M. Marjolin, *juge du concours*, did not coincide with this opinion, and affirmed that what was considered as a foreign body was nothing more than an adherent tumour, very often found in those affected with hydrarthrosis: he was ignorant of its nature never having having had an opportunity of dissecting one. M. Malgaigne, one of the competitors, and who, like M. Bérard, believed in the existence of a foreign body within the joint, hastened to examine this tumour on two patients affected with hydrarthrosis, then under his care in the Bicêtre, and he found it exactly the same as in the patient of M. Bérard. One of these patients died shortly after; he thus had an opportunity of determining its nature, and found that the apparently foreign body was nothing more than a pellet of fat, of a perfectly healthy appearance. M. M. next inquired whether this tumour was entirely the result of inflammation, or whether, previously existing in the natural state, it only acquired an increase of development in consequence of disease? To determine this point he opened a number of healthy knee-joints; in almost all of which he found the above-mentioned tumour, generally on the external side of the articulation, but sometimes on the internal. Its normal existence is no way connected with hydrarthrosis; but it appears to increase in size under the influence of the pain and articular inflammation: it is not found in all subjects affected with hydrarthrosis; but when it does exist during the course of the disease, it continues after the disappearance of the latter; pain on pressure continues longer over the site it occupies than any where else, as if the irritation disappeared more readily when the synovial membrane alone is affected, than when it spreads to the adjoining adipose tissue.—*Encyclographie Médicale*, June 1844.

MATERIA MEDICA AND CHEMISTRY.

ON PARIETIN, A YELLOW COLOURING MATTER, DERIVED FROM A LICHEN.

BY ROBERT D. THOMSON, M.D., Glasgow.

The lichen from which the colouring matter to be described is derived, is of very frequent occurrence on walls and trees. It is the *Parmelia parietina* (yellow wall parmelia), described by Hooker as possessing a rounded bright yellow frond, with lobes radiating, marginal, appressed, rounded, crenate, crisped, and granulated in the centre. The *repositories*, or apothecia, are deep orange, concave, with an entire border. The bright yellow colour of the lichen is a sufficient indication of the presence of a colouring matter, but the real intensity of the colour could scarcely be anticipated merely by an inspection of the plant.

Preparation of Parietin.—When the yellow Parmelia is digested in cold alcohol, of ·840, a yellow liquid is obtained, obviously from the solution of the yellow colouring matter of the lichen. When boiled gently, the liquid becomes deeper coloured, and when a sufficient quantity of alcohol is employed, and the liquor is allowed to evaporate spontaneously, the colouring matter is deposited on the sides of the vessel, in the form of fine needles, sometimes a quarter of an inch in length. The specimens of lichen from which the best crystals of this description were obtained, were from the neighbourhood of Glasgow, and were rather dry, as if they had grown upon a dry wall, little exposed to moisture.

In order to procure the colouring matter of the P. parietina, it is proper to dry the plant at a moderate temperature. This is particularly to be attended to with the sea specimens, which are succulent when compared with the plants from other localities. By this precaution, the alcohol will more effectually extract the colouring matter, without violent or long-continued boiling. We should probably succeed in obtaining the purest product, by removing as much as possible of the water from the lichen, by drying in a stove, and then digesting in cold alcohol. The quantity of the lichen at my disposal has not hitherto been sufficient to enable me to attempt to extract the colouring matter in this manner, but I intend to do so on the first opportunity. I have stated that I have succeeded in obtaining the colouring matter, or *Parietin*, as I propose to term it, in the form of needles, but generally it falls in the shape of brilliant yellow scales, as the alcoholic solution cools. The mode in which I have extracted it, was by gently boiling for a few minutes the lichen in contact with the alcohol, then filtering and adding fresh alcohol until the colour appeared to be extracted. The solution has scarcely passed through the filter, before it begins to deposit the shiny scales of *parietin*. If we attempt to purify these, by re-dissolving them in alcohol, we shall find that only a portion is dissolved, and the deposit from the alcoholic solution, instead of presenting the lustre of the ubstance as at first obtained, assumes the aspect of a brownish yellow powder.[1]

The effect of re-agents upon parietin is striking. A very minute portion of he substance will impart its yellow colour to a large quantity of alcohol, and his solution is sensibly acted on by re-agents. When to such a solution a drop r two of nitric, or muriatic or sulphuric acid are added, the yellow colour imarted to it by the *parietin* becomes much heightened, and even a very small roportion (much more minute than that mentioned), will effect a sensible change. When the solution is strong, the addition of acid produces a yellow recipitate. When caustic ammonia, in the smallest quantity, is dropped into, r applied by means of a rod, to a solution of parietin, the yellow colour immeiately becomes a rich red, inclining to purple. The same result is obtained with caustic potash, caustic barytes, carbonate of soda, caustic lime, &c.

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[1] Dr Thomson gives the results of the ultimate analysis of *parietin*, from which he deuces the formula, $C_{40} H_{16} O_{14}$, to express its constitution.

Parietin as a Test of Alkalies.—The extreme delicacy of parietin in detecting alkalies, suggests its utility in the laboratory. An alcoholic solution may be kept for use, as the addition of a drop or two of the solution to a considerable quantity of an alkaline liquor, will be immediately followed by a change to red; or the process may be reversed, by placing a few drops of the alcoholic solution in a test-glass, and adding to it a drop or two of the alkaline liquor. The alcoholic solution may be prepared simply by digesting the lichen in cold alcohol, of sp. gr. ·840, as I have found that a small portion of lichen will impart a colour to a large quantity of alcohol, sufficiently intense to serve as a very delicate test for alkalies. Observing the strong colour that the alcoholic solution imparted to the filtering paper which was used to purify the solution when first prepared, I cut these into test-papers, and found that, when properly impregnated with the solution, they were little, if at all, inferior to turmeric paper, in their delicate detection of ammonia. Test paper may be prepared extemporaneously from the alcoholic solution, when it is wished to detect ammonia, by dipping a piece of paper into the alcoholic solution, and then applying it in its wet state to the ammoniacal vapour. The yellow colour is immediately transformed into a reddish purple, but more distinct than the colour that becomes apparent in turmeric paper of old preparation, under similar circumstances, which is a dirty brown. One of the principal recommendations of the liquid test already noticed, is the circumstance of its being capable of preservation without undergoing deterioration, while the test papers which have been frequently recommended, although possessing most delicate testing powers when freshly prepared, gradually lose their value by preservation. I believe this to be the explanation of the failure in this country of some continental test papers, which have been recently recommended. It would therefore appear, that the best test paper being that which is of fresh preparation, the most convenient source for its production is that from which it can be most rapidly procured in an efficient state. The observations which have been made upon parietin, in reference to its colouring powers, tend to show that it may be employed with advantage for the most delicate purposes to which turmeric is applied. Parietin, however, is not acted on by acids; the natural yellow colour merely becomes brighter, while turmeric, which contains a blue and yellow colouring principle, has the former reddened by acids, and the latter converted to a brown by alkalies. Moistened yellow *parietin* paper, on the other hand, becomes red or purple when freshly prepared, and reddish brown, if long prepared, by coming in contact with ammonia and other alkalies. The other re-actions of parietin are simple. The alcoholic solution is precipitated yellow by nitrate of silver and acetate of lead, and other metallic salts. A solution of permuriate of iron renders the colour much darker. The precipitates with silver and lead have not been analysed, from the minute quantity of parietin at my disposal.—Abridged from *Transactions of the Glasgow Philosophical Society.*

PREPARATION OF THE TARTRATE OF PROTOXIDE OF IRON. BY M. BOLLE.

M. Bolle has observed, that four parts sulphate of iron and three parts tartaric acid dissolve in water at the ordinary temperature to a perfectly clear solution, but on being heated, prototartrate of iron separates as a bluish-white powder, which again disappears on cooling. To collect this compound, therefore, it is requisite to boil the mixture, allow it to subside, to decant rapidly the liquid, which operation must be frequently repeated, when the precipitates are washed with boiling water. The prototartrate of iron is obtained more easily and in the form of an olive-green powder, by decomposition of the protochloride of iron with neutral tartrate of potash. Both preparations are anhydrous, and afford 40·6 per cent. peroxide of iron.—*Archiv. de Pharm.*, xxxvii. p. 33, as quoted in *Chemical Gazette.*

PREPARATION OF PURE NITROGEN.

Pure nitrogen gas is obtained in abundance, according to E. Marchand, by submitting to distillation in a retort a solution of chloride of lime and caustic ammonia.—*Journ. de Chim.*, p. 15, as quoted in *Chemical Gazette.*

Prestat's Adhesive Plaster.

The following composition is said never to crack, and not to inflame the skin: —Empl. Diachyl. Gum., 400 grs., Purified rosin, 50 grs., Tereb. Venet., 38 grs., are mixed together at a gentle heat, and then 12 grs. of Gum Mastich and 12 grs. of Gum Ammoniac incorporated, and the mass spread on linen. In winter it is advisable to add 10 grs. more turpentine, and 12 grs. of Ol. Amygdal.—*Gaz. des Hôpitaux*, t. vi. No. 35, as quoted in *Chemical Gazette.*

Preparation of Carbonate of Potash, free of Silica, from ordinary Pearl Ash. By Professor Juch.

1 lb. of crude potash is dissolved in 1 lb. of rain water, and 4 oz. of finely pulverized vegetable charcoal added to it; it is left for twenty-four hours, being frequently stirred and then filtered. On evaporation and saturation with an acid, it will be found not to contain a trace of silica, which it is otherwise so difficult to remove.—*Journ. für Prakt. Chem.*, xxx. p. 320, as quoted in *Chemical Gazette.*

Pills and Boluses of Copaiba. By J. F. R. Simon.

M. Simon employs the following proportions, which have been very generally adopted. For pills:—Liquified white wax, ʒj.; balsam of copaiba, ℥ij.; powdered cubebs, ℥iij. For boluses:—Liquified white wax, ʒj.; copaiba balsam, ℥iij.; powdered cubebs, ʒvj.—*Archiv. der Pharm.*, xxvii. p. 334, as quoted in *Chemical Gazette.*

Mode of Favouring the Therapeutic Action of the Resin of Jalap.

In a paper in the *Journal de Chimie Médicale*, M. Rigghini,(d'Ollegio,) states that the syrup of rhubarb is a good agent for testing the purity of the resin of jalap; and that it moreover possesses the property of increasing its action, and on that account merits the attention of practitioners. It should be employed in the following manner—Take any given quantity of the resin of jalap, reduce it to very fine powder in a mortar, and afterwards triturate it with a sufficient quantity of the syrup of rhubarb. On diluting the mixture with water, if the resin be pure it is seen in a state of the most perfect division in the solution; a circumstance which does not occur if it be adulterated with any foreign body. So much for the determination of the purity of the medicine. But there results from this divisibility of the resin of jalap by means of the syrup of rhubarb, a more valuable advantage for therapeutics, and that is, the substance thus comes into contact with a larger extent of surface of the mucous membrane of the bowels, a circumstance which enables it to produce its pharmacological effects, without the necessity of having recourse to such large doses as have been hitherto given; thus 15 or 20 centigrammes of this resin divided in the syrup of rhubarb, and diluted with 60 or 100 grammes of water, are sufficient to produce four or five stools in robust individuals. This medicine, thus administered, produces in some individuals an emeto-cathartic effect. In fine, the purgative power of the resin of jalap, according to M. Rigghini, is so much increased by this new mode of dilution, that it must be administered with considerable caution.—*Journal de Médecine et de Chirurgie Pratiques*, July 1844, P. 309.

MIDWIFERY.

Case of Pregnancy in the Substance of the Uterus, giving rise to a Judicial Inquiry.

An unmarried woman, aged 32, of a strong and robust constitution, who had previously given birth to a child, was again in the third month of pregnancy. She had no desire to conceal her state; but, on the contrary, took pleasure in speaking of it. She led an active life, and gained a livelihood by running messages. On the evening previous to her death, she was engaged in assisting to remove various articles from one house to another. Her state being known, she was requested not to over-fatigue herself. Three-fourths of the day passed, without her experiencing the slightest inconvenience: but towards evening she was seized with severe pain in the hypogastrium, felt faint, and complained of thirst, great lassitude, &c. In the hope that rest would restore her, she went to bed, and experiencing no relief, but becoming worse, a practitioner (officier de santé) was sent for, who ordered leeches to the pubic region; the means employed, however, were of no avail, and the patient expired about two in the morning.

The suddenness of the death—the more surprising as she was in the full enjoyment of health the evening before—joined to the knowledge of her state of pregnancy, gave rise to suspicions which awakened the attention of the authorities, and her body, instead of being carried to the cemetery, was taken to the Morgue of the Hôtel-Dieu at Aix, in order to be submitted to a judicial inspection.

Three medical men were commissioned to open the body, of whom M. Payan was one, and from whose paper, in the *Journal de Médecine et de Chirurgie de Toulouse*, we borrow the following details.

The abdomen was opened by means of a crucial incision, and a great quantity of serum, mixed with blood, was found in its cavity. In the hypogastrium, the blood formed large clots, which filled the pelvis, and covered the uterus. The uterus having been cleared of these clots, which were simply superimposed, was seen to be of a larger size than usual; but what immediately struck the eye as remarkable, was a projection at the upper part, generally diaphanous, and through which an embryo was seen floating in a watery liquid.

In order to examine matters more attentively, the bladder, urethra, organs of generation, and rectum, were removed from the pelvis with as little disturbance as possible. The symphisis pubis was then divided, and an incision made through the anterior walls of the urethra and bladder. These organs were perfectly sound. The vagina having next been exposed, a few spots of a reddish-brown colour were discovered near the vulva. These did not appear of recent origin. The cervix uteri was sufficiently open to permit the introduction of the ring finger.

The neck and anterior wall of the uterus having been divided, there were discovered on the interior surface of the former some dark red spots, but without rent or solution of continuity. The uterus, large as in the second or third month of pregnancy, was opened in the middle of its anterior aspect, and its cavity exposed; it contained no fœtus; but was lined, nearly throughout, with a layer of mucus, thick, villous, of a grey colour, forming a species of pseudo-membrane incompletely organised.

Below the cavity of the uterus another was found, evidently formed, according to M. Payan, in the substance of the uterus itself, and which was situate towards the left side of the fundus, near the uterine extremity of the Fallopian tube. It could not be ascertained whether this opened into the cavity, owing to its having been divided with the scalpel; but, in all likelihood, it did so open into its inferior and external part. This idea was strengthened by the circumstance, that it was impossible to find the orifice of the tube in the uterine cavity.

Did this cavity communicate with that of the uterus? M. P. believed it did not; for on attentively examining the course of the incision which divided the cavities, he everywhere recognised the trace of the bistoury, whose incision divided the thin wall which separated the two cavities. It must be stated, however, that one of M. P.'s colleagues affirmed that he could pass a sound from the one cavity into the other; this, no doubt, may be explained by the permeability of the intermediate wall.

This second cavity, which we shall name interstitial, to distinguish it from that of the uterus, was evidently formed, according to M. Payan, in the substance, and at the expense of the fundus of the uterus, the tissue of which, in consequence of distention, had become so thin that the walls were translucent, and the fœtus could be seen through them. On a cursory view, they might have been mistaken for a simple fold of the peritoneum. The fœtus, with its placenta, and a small quantity of transparent fluid, lay entire in this interstitial pouch. On this cavity being laid open, the fluid which it contained escaped, and a small fœtus, of dimensions corresponding to one of three months, was exposed. It was perfectly developed: the umbilical cord was attached to a placenta situated superiorly and posteriorly. This cyst was so intimately connected with the uterus, that though the latter was turned over to detach it, it still continued adherent by means of the thin prolongation from the fundus of the uterus, or by the interstitial pouch. It was of the size of a duck's egg.

" On attentively examining the abnormal parts, they presented incontestible evidences of a utero-interstitial pregnancy, and the excessive hemorrhage, the cause of the sudden death, was, to our apprehension, perfectly explained by the rupture of a portion of the wall of the uterus, going to form the interstitial fœtal cavity. Another hypothesis, however, was proposed; namely, that the rent at the fundus of the uterus had been caused by some sharp perforating instrument. According to this supposition a sound, or some other foreign body, had been passed, with the help of the speculum, through the cervix uteri, between the anterior wall of the uterus and the membranes, had reached and perforated the fundus, and the uterus, thus excited, had subsequently contracted, and had expelled the fœtus through the laceration. Consequently, what we regarded as an interstitial fœtal tumour, was nothing more than the conception agglutinated to the sides of the uterus by effused blood. This opinion was founded chiefly on the red spots which had been observed on the vulva and neck of the uterus, and on the enlarged size of the uterus.

This hypothesis, considering the anatomical lesions of the interstitial pregnancy as the result of a criminal act, of an attempted abortion, being entertained by two of M. Payan's colleagues, and their convictions being only slightly shaken by his arguments, it was determined that each party should give in a report. We subjoin the explanation of M. P., which appears triumphantly to demonstrate that the case was one of utero-interstitial pregnancy.

" 1st, Having attentively examined," says M. P., "the anatomical arrangement of the parts, and maturely considered the other circumstances, we can come to no other conclusion, from the appearances presented on dissection, than that this was a case of utero-interstitial pregnancy; that is to say, a case in which the germ, instead of being deposited in the cavity of the uterus, had become developed in its superior wall. The formation of this pouch in the neighbourhood of the uterine orifice of the Fallopian tube, which probably opened into it,—the anatomical examination of this pouch, evidently showing that it was formed in the substance of the uterus itself,—the impossibility of explaining its formation in any other way that is the least satisfactory,—and the easy and natural explanation of all the phenomena by the adoption of this opinion, are all so many reasons for unhesitatingly adopting it.

"2dly, The enlarged size and capacity of the uterus is no reason for believing that this development was the result of a normal pregnancy; for it is well known that, in cases of extra-uterine pregnancy, the uterus, although empty, enlarges in the early months, as much as if the pregnancy were normal. On this all authors are agreed.

" 3dly, The existence of the pseudo-membranous substance, which was found lining the interior of the uterine cavity, and nearly filling it, instead of disproving the opinion which we hold, tends to confirm it, since, according to Bectrandi, Chempier, Velpeau, Paul Dubois, and other authorities in this matter, it has been frequently observed in cases of extra-uterine pregnancy; in the case now under consideration, and in the circumstances under which death occurred, we cannot explain its formation by the introduction of any foreign body, as death supervened in the course of eight or sixteen hours after the patient was first seized with pain; the time, therefore, was much too short for its formation.

"4thly, We have stated that there was no pre-existing communication between the two cavities, and that the only one we were able to recognise was that made by the scalpel. But even supposing an opening did exist, still it was too small to permit the fœtus, in a state of integrity, to pass through; for, as we have already stated, it was as large as a duck's egg.

"5thly, The few reddish spots found on the vulva and cervix by no means necessarily implied the intervention of a foreign body, as they exhibited no trace of recent lesion, and they may be more naturally explained by supposing a state of chronic inflammation of the parts. The dilatation of the os uteri may be accounted for by the laxity of the uterine tissue, in consequence of the hemorrhage, and also from the circumstance that there had been a previous delivery.

"6thly, But we go still further, and consider the hypothesis of a mechanical perforation of the uterus, whereby the fœtus escaped, and was expelled from the cavity, as perfectly untenable, because, 1. Had the fœtus ever been within the cavity of the uterus, it would at least have filled it, and thus it would have been extraordinary, not to say impossible, that any instrument whatever should have been able to reach and perforate the superior wall of the uterus without producing the slightest laceration of any part of the fœtus; because, 2. If perforation by mechanical laceration be admitted, we ought to have found a wound with torn and bloody edges, whilst, on the contrary, nothing was seen but a regular division, produced by a cutting instrument, and not a single drop of blood was met with in the cavity of the uterus; because, 3. A laceration would have facilitated the passage of the fœtus into the peritoneal cavity, and would not have led to the formation of a pouch in the substance of the uterus, in so short a space of time, containing the whole conception; because, 4. By admitting the escape of the fœtus from the cavity of the uterus, we must necessarily admit a previous detachment of the placenta; now this detachment must have been followed by a greater or less degree of uterine hemorrhage, as happens in every case of abortion, whilst the uterine cavity presented absolutely no trace of such an occurrence.

Consequently, the more we reflect on the case in question, and on the anatomical signs observed, as well as on the reasons by which the opinion opposed to the one we entertain have been supported, the more are we convinced that this was a case of well-marked utero-interstitial pregnancy; and that, consequently, death must be attributed, not to any mechanical and criminal act, but solely to the rupture, at some part, of the wall of the interstitial pouch, and to the abdominal hemorrhage which necessarily resulted."—*Encyclographie Médicale*, April 1844.

On the Practice of Midwifery, with Remarks. By Jonathan Toogood, M.D., Licentiate of the London College of Physicians, Bridgewater.

Midwifery is considered by some members of our profession too unimportant a branch of medicine to engage the attention of scientific men, who contend that the practice is degrading, and ought to be left to old women and nurses. The successful practice of midwifery, however, at the outset of life, as surely establishes a professional man's reputation, as the contrary retards his progress; and it appears to me that the careful study of this branch of our art is absolutely necessary to avoid the mischief of "meddlesome midwifery," than which nothing can be worse. Impressed with this conviction, I attended closely to the subject during the early part of my life, and have practised it extensively nearly forty years. I propose to give the result of my practice during the first seven years, with such remarks as may be useful.

My register contains a list of eleven hundred and thirty-five cases attended during that period, of which number the greater part were, of course, natural labours.

Eight cases presented with the face to the pubis, five of which terminated naturally, in one the forceps was used, in one the child was turned, and in one the funis descended with the head, and the uterus ruptured in delivery. Presentations of the face generally terminate without artificial aid, but the forceps will sometimes be required. I have employed them in three successive labours in the same patient, to whom I was called in consultation with another practitioner, who on one occasion had patiently waited the efforts of nature for more than fifty hours. In a few cases, if called early, I have turned and delivered by the feet, and in one case by turning the face to the sacrum. I have often attempted this, but succeeded once only. This patient was delivered of her first child by the crotchet, and in a subsequent labour in which I attended her, with the forceps, in a presentation of the face. Having been engaged to attend her, I desired to be called very early, and on making an examination, my finger went directly into the child's mouth; the membranes had not ruptured, and the uterus was well dilated; I made firm and steady pressure with my fingers on the parietal bone during a pain, the head revolved under my fingers, the membranes broke, and the child was born in a few minutes.

In six cases the perforator was used, two of which terminated fatally during the month, and one soon after delivery; the other three cases did well, although in one the labour was protracted for five days before any attempt at delivery was made. The deformity was so extreme, that her delivery was considered impracticable, and she was abandoned. The projection of the sacrum was so great, that it was necessary to bend the perforator to a semi-circle before the head could be reached, and the child was brought away in small pieces with much difficulty.

The forceps were applied in fifteen cases, and all the children were born alive. I have always used the short forceps, recommended by the late Dr John Clarke.

In three cases the arm presented, in neither of which did any particular difficulty occur. It is rather remarkable that amongst so large a number of cases, four only of original presentations of the arm have occurred in my own practice up to the present time, although I have been called to many, in consultation with other practitioners. Some have proved extremely difficult, but in all, delivery was effected by patient perseverance, without dismembering the children.

In eleven cases the breech presented, but nothing worthy of remark occurred in any of them. The practice of bringing down the feet, with a view of expediting delivery, is bad.

In three cases the feet presented.

There were twelve cases of twin births.

Twenty-one cases of severe hæmorrhage occurred, two of which were fatal; one soon after the delivery, and the other six days after, from fever.

The plan of rupturing the membranes in accidental hæmorrhage was so strongly condemned in the school in which I was educated, that I cautiously avoided it in my early practice, until the publication of Dr Rigby's able work, since which I have in every case adopted it, and invariably with success.

The introduction of the hand into the uterus is the most powerful agent in suppressing sudden and violent discharges of blood; and, if done early, seldom fails; but if delayed until great exhaustion has taken place, the uterus is very apt to relax again, and expose the patient to a recurrence of hæmorrhage, and a repetition of the operation. As this is always a painful operation, though often a necessary one, it is desirable to avoid it; and for many years past it has been my practice to grasp the uterus in both hands, and keep up steady and continual pressure externally, in all cases where there is a disposition to hæmorrhage.

The ergot of rye is esteemed by some a useful remedy in hæmorrhage from the uterus. It has not been successful in my hands. It is given much too indiscriminately during labour, sometimes it produces good effects, whilst at others it seems to be perfectly inert.

The placenta presented in one case, delivery was speedily effected, and the patient did well.

Twenty-four cases of adhesion or retention of placenta occurred, which required the introduction of the hand for its removal. These are some of the most distressing cases in the practice of midwifery.

I have seen several instances of phlegmasia dolens, which, with one exception, have done well. Local bleeding and cooling applications have been most beneficial in the early stage, and after the inflammatory symptoms have subsided, the cure has been completed by mercurial friction, and wrapping the limb in oiled silk.

Symptoms of puerperal mania appeared in one case, immediately after delivery, as soon as the patient was placed in bed. The disease was perfectly established in twenty-four hours, continued with great violence for many weeks, then gradually subsided. She passed through several subsequent labours without any recurrence of the attack, but died some years after of disease of the brain. Every other case which has fallen under my care has recovered.

The vagina ruptured to a considerable extent in two cases.

Puerperal peritonitis supervened in two patients, both of whom recovered under general and local bleeding, and calomel, employed early and actively.

One woman died very suddenly an hour or two after delivery, the cause of which could not be correctly ascertained, an examination being refused, but which was suspected to be internal flooding, or rupture of the uterus.

In one case the uterus was ruptured in turning, from violent and sudden action. The woman was delivered, and died a few hours afterwards.

Rupture of the uterus, in my opinion, happens much more frequently than is imagined or admitted, and many deaths which occur soon after delivery, and are not accounted for, may with truth be attributed to this cause. Ten cases have come within my knowledge, two of which were in my own practice.

It is somewhat remarkable, that out of so large a number of cases, only one of puerperal convulsions occurred.

It is evident that the practice of midwifery involves duties of too responsible and dangerous a nature to be entrusted to ignorant women and nurses. All men do not possess the necessary qualifications, and are not equally adapted for it. He will be best suited for the arduous task who possesses a good constitution, is capable of enduring great fatigue, and patiently submitting to many privations, with sound judgment and firm determination, without rashness, which he will often be required to exercise when exhausted by long watching and anxiety; in addition to which, if his manner be kind and his disposition cheerful, the practice will be more agreeable to himself, as well as to his patients.—Abridged from the *Provincial Medical and Surgical Journal* for May 22, 1844.

DIFFICULT LABOUR—FROM THE PRESENCE OF AN ABSCESS IN THE TISSUE OF THE CERVIX UTERI. (?) BY M. PRESTAT.

A primipara, aged 28, having reached her full period, began on the 19th November to experience uterine pains. Although these were tolerably severe, and occurred regularly every half hour, dilatation made no progress. For four days the midwife in attendance employed, without benefit, hip baths, emollient injections, and lavements. On the 22d she practised a large bleeding; in the evening the pains became stronger, and dilatation occurred to the extent of two centimetres, the pains then almost entirely ceased.

M. Prestat, assistant-surgeon to the Hôtel-Dieu Pontoise, who relates the case, was then called. He found the woman very much exhausted from the continuance of the pains, and the total want of sleep; the pulse was somewhat full, but neither hard nor frequent. The pains recurred every ten minutes, and were sufficiently strong; they lasted about a minute and a half. The vagina and vulva were moist, and of the natural temperature. The os uteri was about 2 centimetres in diameter, and thin at the edges; but at the distance of some millimetres, the neck became thick, and offered a considerable resistance both during the uterine contractions and in their absence. The membranes were entire; and the head presented in the left occipito-anterior position. The pulsations of the fœtal heart were distinctly heard, they were normal both in strength and rhythm.

To the means already employed M. P. added friction of the os uteri with extract of belladonna, which was repeated in the evening. Dilatation had then attained the size of a crown piece; the thin edge of the orifice was lost in the swelling which surrounded it; the pains still continued strong and frequent. Things remained in this state till midnight. At that period the os uteri became as rigid as it had been the previous evening. M. P. then made three incisions in its edges; about a table-spoonful of blood escaped, and the dilatation proceeded rapidly. Towards five in the morning, the head, enveloped in the membranes, became engaged in the os uteri, and pushed it before it into the pelvis. M. P. now ruptured the membranes, and supported the anterior part of the os uteri, which, however, did not prevent it from being obtruded. The head, however, reached the outlet, and underwent its usual movement of rotation.

At seven in the morning, the pains having entirely ceased, M. P. determined to use the forceps. Nothing particular occurred during the introduction of the male branch; it was placed over the left sacro-sciatic ligament. The other branch was introduced posteriorly and to the right; but when M. Prestat wished to give it the movement of circumduction round the head, in order to bring it under the right ramus of the pubis, he experienced a powerful resistance, which he at length overcame; immediately there flowed from the vulva several spoonfuls of a thick, creamy, purulent fluid, streaked with blood. The traction necessary to disengage the head from the outlet was sustained and powerful; at the moment the head cleared the os uteri the pain was extreme.

The termination of the labour offered no further difficulty. The hemorrhage being considerable, M. P. (with the view of ascertaining its cause) introduced his finger into the vagina; he could find no tumour in any part of the pelvis explanatory either of the presence of the pus, or of the difficulty of the labour. The delivery was natural, and the woman speedily recovered.

"I am uncertain," says M. Prestat, "as to what cause I should attribute, 1st, The extreme slowness of the labour. 2dly, The rigidity of the cervix uteri. 3dly, Its contraction upon the cranium. And, 4thly, the formation of pus. In conversing with the midwife, she remarked that the patient never experienced the usual pains. She often, however, complained of pricking and shooting pains in the belly and lumbar region. Was there then no pathological state to account for these peculiar pains and the rigidity of the neck? I am inclined to think that an interstitial abscess existed in the tissue of the neck of the uterus, and that it was opened by the pressure of the right blade of the forceps. This is merely a hypothesis, but it seems probable."

This explanation of M. P. may, it appears, be questioned. The following are the reflections of the editor of the *Journal de Chirurgie*, who published the case. "We should feel much inclined to give a different explanation of the obstacle which so long impeded the efforts of the able surgeon of the Hôtel-Dieu of Pontoise, were it not that the nature of the fluid which escaped at the moment the obstacle was overcome, forces upon us the explanation he proposes. This fluid was so different from that of the liquor amnii, that a mistake could scarcely be committed, more especially by a physician who, for a long period, was an interne in two of the largest obstetrical establishments in Paris. The doubts which still remain might have been removed by a direct exploration of the neck, immediately after the delivery, but, unluckily for the support of his hypothesis, M. P. had not recourse to this means of elucidation. We certainly do not blame him for the omission, as under the circumstances the examination must have been attended with pain, and in the presence of other patients, the interests of art are but of secondary importance. Were the quantity of the fluid disregarded, every thing could be easily explained by the rigidity of the cervix and os uteri. Rigidity of the os uteri is a fact well known to every one. But in our opinion, far too little attention has been paid to rigidity of the neck and lower part of the body,—to that part designated by the name of the lower segment; and yet, according to the experiments of Nægelé and many others, an obstacle to parturition, natural or artificial, is much more frequently met with in that situation than is generally believed. By this means not only the slowness of the labour may be explained, but also the little benefit that resulted from the incisions practised at the orifice, and the difficult introduction of the second branch of the forceps, since the introduction of the first branch had not only rendered the space more contracted, but by its presence stimulated the anormal, already too great, and perhaps, unequal contraction of the lower segment of the uterus. Now, suppose that this spasmodic contraction suddenly gave way before the forceps when brought round in front, would it not happen, as was seen in the case of M. Prestat, that the obstacle to the advance of the branch would disappear, and that the inferior segment pressing less upon the head, would allow the escape of a certain quantity of amniotic fluid? We repeat, we see nothing in the case of M. Prestat that may not be explained without travelling beyond the ordinary circle of facts, if the fluid, instead of being *thick, creamy, purulent matter,* had been simply muddy, as is sometimes the case with the amniotic fluid. This important and capital circumstance may, to a certain extent, justify another explanation. The difficulty of freeing the head from the orifice may be explained by the spasmodic contraction of the lower segment of the uterus; and the natural rigidity of the soft parts in a vigorous peasant, aged 28, and primiparous, are sufficient to account for the extraordinary efforts which were necessary for her delivery."—*Encyclographie Médicale,* June 1844.

THE COMPLETELY INVERTED UTERUS SUCCESSFULLY REMOVED BY LIGATURE.

BY JOHN GREEN CROSSE, Esq., Norwich.

Mrs W—, aged 29, was delivered by forceps of a still-born child after a very tedious labour, on October 10, 1841. In half-an-hour the placenta was felt in the vagina, and brought past the os externum, by the hand; but although nine-tenths of it were thus made visible, a portion of it still remained adherent to a mass occupying the vagina. The placenta was detached on a level with the external labia, and by grasping the mass in the vagina, it was carried up into the uterus. It became evident that the placenta had been attached, perhaps morbidly so, to the fundus uteri; this part had become inverted, and descended through the os uteri into the vagina, and that in the relaxed state of the organ. I *reverted* the fundus, and placed all *in situ*. The most unfavourable prognosis was entertained, but the patient gradually recovered.

Mrs W— terminated her second labour, naturally, after eight or ten hours of pain, by the birth of a living female child, on January 14, 1843. Profuse hæmorrhage followed,—two sudden and enormous gushes,—and the placenta not descending, the surgeon in attendance introduced his hand into the uterus, and finding the placenta partly detached and partly adherent, he proceeded to separate the latter portions with his fingers, but experienced much difficulty, and could only proceed by removing the placenta piecemeal. The hæmorrhage had ceased when I arrived, but the patient continued faint and cold, and did not rally until after the expiration of five hours.

No urine having been passed for about thirty-six hours, the use of the catheter became necessary, when a round body, as large as a fist, was felt in the vagina, which was recognised to be the uterus completely inverted. The various manipulations recommended in such cases were tried by my associate and myself for an hour, but without effecting any change, when the patient's condition warned us to desist. Anodynes were freely administered, and the catheter used every twelve hours.

On the fourth day, the inverted uterus prolapsed through the external labia, while the patient was straining at stool. The mass measured twelve inches in its larger circumference, and protruded 5¼ inches. The patient continued in a very alarming state, with a pulse of 120, or even more. The urine was drawn off, anodynes administered, and the tumour covered with soft linen, and encircled with a bandage. The size of the tumour diminished considerably under the uniform pressure of the bandage; at the expiration of eight days from the commencement of this treatment, it measured 9¼ inches at its greatest circumference.

Embracing the opportunity when the bandage was removed, I experimented by touching the exposed internal (now the external) surface of the uterus, by pressing it with the finger, pinching it, pressing my finger nail into it, but none of these means caused any inconvenience, or produced any sensation or impression upon the patient.

The patient's condition was much improved at the three weeks' end, but after this it deteriorated; the profuse mucous discharge weakened her greatly; she became anxious, desponding, restless; and at the expiration of just one month from delivery, I determined to apply a ligature for the removal of the entire organ. I preferred placing the ligature on the neck of the uterus, where the circumference measured about five inches.

On the 12th of February, a silken ligature, about the twelfth of an inch in thickness, was applied, by an instrument, by means of which I had the power of tightening or loosening the ligature at pleasure. Before tightening the ligature, I bandaged the tumour firmly. The patient experienced no pain in the seat of the constriction, and suffered no sickness, but had pain at the lower part of the abdomen, and in the loins, which moderate doses of opiates relieved.

Every day I tightened the ligature a little, and had never occasion to loosen it, on account of any urgent or painful symptoms. The pulse continued at 120, as it was before I began the operation; the catheter was used several times each day.

On the fifth day from the commencement, the superficial parts of the tumour became a flaccid, dark, and evidently putrefying mass, and was cut off, with great relief to the patient, three quarters of an inch below the ligature. In the evening, after this excision, I found the ligature, which was still kept tight, and which was at first apparent at the external labia, drawn up an inch and a half within the vagina.

At the expiration of twelve days I removed the ligature, leaving the small remaining slough to separate spontaneously; the woman's health is improved; the urine has for some days been voided naturally; the pulse is 100 in a minute.

March 6th. All mucous discharge has ceased; the vagina is ascertained, by means of the speculum, to be healthy; corresponding with the os uteri there is a transverse slit.

On the 11th March the patient sat up, and after the 16th came down stairs daily. By the 20th she was restored to her usual health. A sponge pessary was worn for some weeks.

It is now sixteen months since the operation; no menstrual discharge has appeared, but she has performed conjugal duties without inconvenience, and enjoyed as good health as was usual before being deprived of the uterine organ, a part of the female system whose essential functions have reference naturally to only a portion of the possessor's life, and the absence of which, when once safely accomplished, can be borne without any detriment to health, or abbreviation of the duration of her existence.—Abridged from the *Provincial Med. and Surg. Journal*, for June 12, 1844.

CASE IN WHICH PREMATURE LABOUR WAS INDUCED BY THE USE OF SPONGE TENTS.

By M. POUPART, Interne of the Maternity of Brussels.

C. S., a rachitic woman, aged 31 years, presented herself to Mr Vanhuevel at the eighth month of her first pregnancy. From the extreme narrowness of the pelvic diameters, it was judged necessary, after a consultation, to induce labour artificially; and it was resolved to adopt the method of Kluge, viz. by introducing a conical sponge, with attached thread, (*éponge preparée à la ficelle*), within the neck of the uterus.

On the 22d of June, about 9 A.M., the first cone was introduced into the neck of the womb, through a speculum, and then a common sponge was pushed into the vagina. During the evening the latter having slipped out, the conical sponge was withdrawn, by means of its attached thread. This was followed by a small quantity of blood—the consequence of a *dry* sponge having been used, which besides being difficult to introduce, irritated, and at last stuck closely to the mucous membrane. These inconveniencies suggested the following method of preparing the cones: they were coated with a mixture of wax and lead, in the proportion of one part of the former to two or three of the latter; this was applied *à demi-figé* to the surface of the sponge, to prevent more liquid from penetrating its porosities, and thus preventing its dilatation, (*"à demi-figé sur la surface de l'éponge, pour empecher que, plus liquide, il ne pénétrât dans les porosités de ce corps et ne s'opposât ensuite à la dilitation."*) On the evening of the 22d the second cone, prepared in the manner just described, was inserted. On the following morning the patient had a general bath, and injections thrown into the vagina. The sponge was at the same time withdrawn without any difficulty; and a third, larger than the two former, was easily placed within the uterine orifice. During the day the patient experienced slight labour pains. In the evening the sponge was replaced by another still larger. After this, the uterine contractions became stronger and stronger; and at one A.M., on the 24th, the waters broke forth, carrying before them the sponge from its place in the *os uteri*. Upon examination, the mouth of the uterus was found to be dilated to the size of a two-franc piece. The pains increasing, the labour was left to nature. During the evening, the head became engaged in the superior opening, and soon afterwards descended into the cavity of the pelvis. From this time labour went on more slowly, although the patient seconded with energy the uterine contractions. By degrees, however, the head descended, and was expelled toward midnight: the rest of the body soon followed. The womb soon contracted on itself, and the after-birth was not long retained. The child did well.

From measurements made by the geometrical pelvimeter of Vanhuevel, it was proved, that a full-time fœtus of the average size could not have been born, unless after craniotomy or some analogous operation had been performed upon it.—*Annales Médicales Belges;* as quoted in the *Annales de Thérapeutique*, for August 1843, p. 186.

[The above case shows some important mistakes, which ought to be guarded against. The author does not seem to understand the rationale of the practice. The proper method of employing the sponge tent method of dilatation in sterility, dysmenorrhœa, uterine hemorrhage, and for the induction of premature labour, was explained by Professor Simpson, at p. 734 of our penult Number.]

Injection of the Uterus as a Means of Expediting and Facilitating Delivery. By the Editor of the Medical Gazette.

A farmer in the neighbourhood of Edinburgh, son of a late eminent surgeon of that city, and well known to the editor of this journal, (*Med. Gazette*) frequently had cows in great distress during their accouchment, and now and then perhaps, like other farmers, he lost a cow in the act of parturition. On one occasion, when a poor animal of considerable value had been suffering for a very long time, and there was every prospect of an unfavourable issue to the affair, as it seemed inevitable that the poor creature must die undelivered, the owner hurried into Edinburgh, distant about five miles, and took counsel with the eminent veterinary professor, Mr Dick, as to the course to be pursued.

At the suggestion of that gentleman, he, with all the expedition possible, threw into the uterus from six to eight quarts of tepid water, the animal's hind quarters being previously elevated by a bundle of straw, so as to aid in preventing the return of the water. The instrument employed in the injection was the flexible tube (in fact, that used for the stomach pump), attached to Read's patent syringe, which was easily introduced over the shoulder of the fœtus, the muzzle and fore-feet of which had been ascertained to be presenting at the commencement of the labour. The liquor amnii had completely escaped at a very early stage, and it was fully twenty-six hours afterwards before Professor Dick's excellent and ingenious advice was applied. But after the injection the calf was felt floating freely in the cavity of the womb. The animal, however, was so totally exhausted, that there still seemed no hope of the calf being expelled by the natural efforts. Nevertheless, within five minutes after the injection of the water, a vigorous pain came on, and the patient was speedily and safely delivered of a live calf, and sustained no other ill consequences than a few days' weakness, the natural effect of her previous suffering.

Our friend mentioned this very ingenious plan to a neighbouring surgeon-accoucheur in large practice, who was so much struck with its simplicity and apparent safety, that he resolved to adopt it on the first favourable opportunity. An occasion soon presented itself, in a case where nothing but the long forceps could have effected the delivery of the sufferer; and shortly afterwards in a second instance, where turning and delivery by the feet would have been indispensable to save the patient's life.

In both cases the injection of about a quart of tepid water was attended with complete success; the patients were both delivered of living children by the natural efforts, without any unfavourable symptoms ensuing.

We have gathered these particulars from the owner of the cow, the gentleman who, with his own hands, made practical application of Professor Dick's valuable suggestion, believing that the procedure indicated is new, free from danger in itself, and likely in many cases to obviate the necessity for more formidable and painful operations.—*London Med. Gazette*, July 19, 1844.

EXTRAORDINARY CASE OF VICARIOUS MENSTRUATION. BY DR F. C. STEWART.

Margaret Campbell, the patient thus affected, has had her arm swollen to an enormous size, at five separate and distinct epochs, and always after an attack of dysmenorrhœa. The swelling has invariably continued until the restoration of the catamenial discharge; immediately after which it begins to subside, and continues gradually to diminish, until the arm is restored to its normal condition. It is now seven years since she first was troubled with it, and she has been as long as two years without having it to recur. Almost every variety of emmenagogue treatment has been pursued, and generally with very undecided effect. The arm has now been swollen since the month of September, (this was on 18th November), and is so large as to measure fifteen and a half inches round the elbow, where it is the largest; the fingers and hand are likewise much enlarged and disfigured. The general health of the girl is good, and she experiences but trifling pain in her arm. She is married, but has no family. The first invasion of the disease is attributed to her having put her hand into very cold water, immediately after using some that was hot. Having her menses at the time, this imprudence checked them, and in a short time afterwards the arm began to swell. So serious was the malady supposed to be by the surgeons who first saw it, that they are said to have recommended amputation. Since the foregoing statement was made to the Society, we learn from Dr Stewart that he had succeeded in restoring the menstrual discharge, by means of two setons, the one placed in the thigh, and the other in the hypogastric region; and the arm has again returned to almost its natural size.—Abridged from the *New York Journal of Medicine* for May 1844.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF LONDON.

Continued from p. 810.

Tuesday, May 28, 1844. Edward Stanley, F.R.S., President.

Case of Dissecting Aneurism of the Aorta, Innominata, and right Carotid Artery, causing suppression of Urine and white softening of the Right Hemisphere of the Brain. By R. B. Todd, M.D., F.R.S.—The patient, a stout, plethoric man, aged 37, was suddenly seized, while dining at a friend's house at Norwood in Surrey, with syncope, from which he soon recovered. He was taken to the house of another friend in the neighbourhood, and Mr Street attended him. His symptoms at this time were violent pains in the loins down the course of the ureters, thighs, and abdomen, with some tympany and swelling of that region, nausea, and scanty urine. Notwithstanding depletion, local and general, purging and diuretics, the kidneys ceased to act, and other signs showed themselves. He became paralytic of the left side; the pulse of the right side was distinctly smaller and weaker than that of the left; there was a bellows sound in the course of the aorta and innominata, and the breathing in the right lung was less audible than that in the left. There was also great drowsiness and sluggishness, indicating oppressed brain.

About the fifth or sixth day the secretion of urine returned, but the cerebral symptoms showed but trifling signs of amendment. The pupils, which had before been unequal, became equal, and some power returned to the paralysed side. But the pulse began to falter, and signs of an internal hemorrhage manifested themselves, and on the eleventh day from his seizure, he expired quite suddenly.

A copious effusion of blood was found in the pericardium. This had escaped through a little fissure in the outer coat of the aorta, which formed the external wall of a recently formed aneurismal sac. This sac communicated with the aorta through a transverse rent in its inner and middle coats, which originated in an ulcerated atheromatous cyst. The blood which thus escaped from the artery made a new channel for itself along the aorta, and also along the innominata and right carotid arteries by splitting the middle tunic of these vessels into two laminæ. The separation took place in the carotid to some distance of the artery, and then stopped, the consequence of which was, the plugging up of that artery, and the cessation of the circulation in it. The right hemisphere of the brain was exsanguineous, and all that part of it which is above the fissure of Sylvius, (which is supplied with blood from the middle cerebral artery) exhibited numerous patches of softening without discoloration, affecting the white matter as well as the grey substance of many of the convolutions. This softening Dr Todd attributed to the stopping of the circulation in the right carotid artery, the vertebral not being able to render its full share of blood owing to the diminished calibre of the innominata and subclavian.

The kidneys were in the second stage of granular disease. The temporary cessation of the action of these organs was doubtless due to a temporary impediment to the full flow of blood to them. The paralysis and the somnolency were clearly to be attributed to the physical alteration in the right hemisphere of the brain. The case was attended by Mr Street of Norwood, and Dr Todd, and was seen once by Dr Watson.

Tuesday, June 11, 1844. EDWARD STANLEY, F.R.S., President.

Cases of Tubular Expectoration. By James Reid, M.D.—The author observed that there were only four cases of this disease placed on record, of which two would be found in Dr Watson's lectures. The first case recorded by Dr Reid, was that of a lady aged 28, who had an attack of bronchitis in December 1836, which left behind a chronic cough. In February 1837, she coughed up with froth and mucus tinged with blood, several arborescent membranous substances resembling casts of the minutest bronchial tubes. This substance continued to be expectorated for several days, to the great relief of the breathing. She had a recurrence of these attacks five or six times, at intervals, varying from one to six weeks; the patient became emaciated, her general health suffered, and there was great dyspnœa. A residence in Devonshire restored her, but on her return to London, in October, she had an attack of dyspnœa, much more severe than the former ones. This was followed by the expectoration of the arborescent substance, in much larger quantities, and of a firmer consistence than before. A discharge of blood always accompanied it, but never to much extent. The patient had no return of the complaint after this, but died in December 1841, of a disease unconnected with the chest.

He thinks the cause of the disease may be a chronic inflammation of the mucous membrane, altering the natural secretion. The prognosis might be usually favourable, and expectorants, a light diet, and cooling drinks, usually comprised the treatment.

Dr Copland, in allusion to the statement of the author of the paper to the effect that the disease under consideration had not been mentioned by other writers, observed the complaint was fully treated of by writers on diseases of the bronchi, and several cases had come under his notice, both in journals and elsewhere. It was not, therefore, correct to assert that the disease had been neglected by the profession.

On the Introduction of Solution of Lead into the Bladder for the Decomposition of Phosphatic Calculi. By S. Elliot Hoskins, M.D., F.R.S. Communicated by Dr Prout.—The object of this paper was to illustrate, by the details of six cases, the benefits which may be expected to arise from injecting weak solutions of certain salts of lead into the bladder, for the decomposition of phosphatic calculi, on principles explained by the author in a paper communicated last year to the Royal Society. These salts act in destroying concretions by a process of double decomposition, whereby the active agent of the decomponent is liberated gradually, and neutralised by the earthy basis of the calculus, before it can come in contact with the living tissues, and the solutions are therefore easily borne, as injections, by the coats of the bladder. The salt which he first employed was the nitro-saccharate of lead, but he has since substituted the acetate, and he describes the particular mode of using it. The experience of the cases which he records establishes, he thinks, two facts,—first, that the presence of the injection is tolerated by the bladder, and that it acts as a sedative, besides coagulating the mucus so abundantly found in these cases into short, curdy flakes, easily passed through the urethra; and, secondly, that a chemical action takes place on the calculi. He believes that where surgical operation is inadmissible, this plan of treatment will be of avail for relief, if not for cure; for smoothing away asperities and removing the outward phosphatic coating of calculi, so as to bring them within the range of the crushing forceps; in short, for partial, if not for entire, disintegration. The latter, he thinks, is more likely to happen when layers composed of urate or oxalate are bound together by phosphatic cement. He also directs particular attention to one of the cases, where a considerable quantity of calcareous matter was removed from the prostatic portion of the urethra by the injection acting on calculi which were found lodged in that part.

Mr Solly said that he had used the solution recommended by Dr Hoskins, and he had found it not so unirritating an application as had been represented. The case in which he had employed this injection was certainly a very aggravated one, for the bladder was much diseased, and the urine contained a quantity of mucus, and of the phosphates.

Mr Bransby Cooper considered that the solution of Dr Hoskins might relieve irritability of the bladder consequent upon the presence of a stone, but that the operation of lithotomy, or lithotrity, must be resorted to to effect a cure. He looked upon lithotrity with a less favourable eye than the last speaker. The latter operation could not be resorted to with propriety in any case in which the bladder could not contain and retain six or eight ounces of fluid during the performance of the operation.

Tuesday, June 25, 1844. Edward Stanley, F.R.S., President.

Case of Fistulous Communication between the Intestinum Ileum and Urinary Bladder, simulating Stone in the Bladder. By W. C. Worthington, Esq., Surgeon to the Lowestoft Infirmary, and Fellow of the Royal Medical and Chirurgical Society. Communicated by James Copland, M.D., F.R.S.—The patient, a female, sixty-five years of age, previously enjoying good health, began, four years ago, to suffer from pain in the right iliac region, the cause of which could not be satisfactorily traced. Having continued to experience this pain, symptoms indicating disturbance of the urinary organs commenced in November 1842. Her pain was much aggravated. She had frequent and painful micturition; the urine was bloody, ropy, and highly offensive, and fragments of extraneous matter, the exact nature of which was not ascertained, were often found deposited from it. On sounding the bladder no calculus was felt, but there was a grating produced by moving the instrument, which led to its being supposed that some malignant ulceration had taken place in the coats of the bladder. The treatment consisted chiefly in giving anodynes to relieve the pain. The patient survived about four months, and died from an attack of diarrhœa. On examining the body after death, adhesions were observed between the convolutions of the intestines and the pelvic viscera. By further dissection it was found that a fold of the intestinum ileum was closely adherent to the fundus of the bladder, and that a communication existed between the two cavities by an ulcerated hole which extended through the coats of the intestine and the bladder, and was sufficiently large to admit the point of the index finger. On slitting open the bladder it was found partly filled with feculent matter and undigested food, such as currants, seeds, and other vegetable matter. The coats of the ilium near where the ulceration had taken place, were thickened and indurated, and the canal consequently strictured. The author concluded by quoting Dr Copland's *Dictionary of Practical Medicine*, where similar cases are referred to with interesting observations on fistulous communications between the intestines and other viscera.

Case of Mollities Ossium, with Observations. By S. Solly, Esq., F.R.S., Assistant-Surgeon to St Thomas's Hospital.—The author of this paper relates two cases of mollities ossium in the adult which have lately come before him. The first case was that of a young woman, aged 29, in whom the disease first exhibited itself seven years previous to her death, by a fracture of the clavicle, caused merely by the exertion of lifting a stool. The disease advanced in the spinal column and skull, in which latter portion of the skeleton it was of such an active character that the membranes and substance of the brain became secondarily affected, and insanity was the consequence. When in St Thomas's Hospital, in 1840, whither she was removed in consequence of her mental derangement, the lower extremities gave way, and depriving her of the power of walking, she was obliged to push herself about the floor upon her haunches. On the 8th April 1842, she was admitted into Hanwell, where she died in the October following. The disease had attacked almost every bone in the body.

The second case was that of a woman, aged 39, whom Mr Solly admitted into St Thomas's Hospital a few days before her death. In this case the progress of the disease was rather different; it commenced in the lower extremities and attacked the rest of the skeleton subsequently. The immediate cause of death was suffocation from contracted thorax, one lung wholly impervious to the air, and the other nearly so.

Mr Solly proposes that this disease should be distinguished from other kinds of softening of the bones, by the title of osteo-malacia *rubra et fragilis*, from the colour which the bones invariably exhibit in their interior when divided, and the fact that they almost invariably break and not bend, as in rickets. The two adjectives appear advisable, as the redness in the interior exists in the early stages of rickets, an essentially different disease, while their liability to fracture is not characteristic of this complaint alone.

From a comparison of the symptoms during life with the appearances after death, he has been led to believe that the disease is of an inflammatory character; that it commences with a morbid action of the blood-vessels, which gives rise to the severe pain in the limbs invariably attendant on it, but more especially in its commencement, and exhibits itself after death by an artificial redness of the part.

Case of Hæmorrhage of the Liver. By James Abercrombie, M.D., Cape of Good Hope.—The patient, a lady aged 35, died on the fourth day after delivery. On examination after death, there was found on the anterior and superior surfaces of the liver, a large sac, which burst on attempting to remove the organ, and discharged about two pounds of blood, fluid and coagulated; it was found to have escaped from a branch of the venæ portæ, and the sac was formed by the peritoneum. The organ itself had throughout a mottled appearance, and was unusually soft. The uterus was in a perfectly sound state, as were all the other viscera both of the pelvis and abdomen.

Peculiar Case of Gelatiniform Cancer, in which nearly all the organs of the body contained Colloid Tumours, with the appearances on dissection. By John C. Warren, M.D., Professor of Anatomy and Surgery in Haward University. Communicated by Dr M. Hall.—The patient in this case was a man, aged 25. The particulars of it are detailed at considerable length, and could not be well abbreviated. The author remarks, that colloid, gelatinoma, or gelatiniform cancer, as it has been called, is stated by the various authors who have described the disease, as occurring in one single mass, usually of considerable size. Dr Walshe says, "The comparative rarity of the co-existence of several tumours in the same subject, has been noted in scirrhus, and this is still more marked in the case of colloid." M. Cruveilhier states that it is rare to observe its successive or simultaneous development in a number of organs or parts. Dr Hodgkin expresses himself nearly in the same tone, but adds, that it does at times invade different localities in the same subject. In the case here described, the disease was diffused through nearly all the textures of the body, without presenting any one considerable mass. The author adds, that the case is also remarkable, in exhibiting a union of the three admitted forms of malignant disease, scirrhoma, cephaloma, and gelatinoma.

The Society adjourned until November next.

FRENCH ACADEMY OF SCIENCES.

January 8, 1844.

Tracheotomy in the advanced stage of Croup. By M. Scoutteten of Strasburg.—The patient was a child six weeks old. The symptoms at first were not very acute, but in the course of a day or two the danger of suffocation became very imminent. During the paroxysms, which became more and more frequent, attempts were made to produce vomiting, but with slight effect. Thus air was drawn by the mouth into the lungs of the patient, which caused the pulse to rally slightly, and animation to return. But this proving insufficient, a firm elastic sound was introduced into the larynx—any relief which it afforded, however, was before long neutralized by the cough and irritation excited by its presence. Only one resource was therefore left,—tracheotomy. It could scarcely aggravate the existing danger, and might, perhaps, if the substance of the lungs were healthy, avoid the impending suffocation. Accordingly, the operation was performed, and with the best possible results. On the tenth day after the operation, the tube was removed—the child's health became completely restored—and the tone of the voice appears to have suffered no alteration.

[The readers of the MONTHLY JOURNAL will remember the report of a case of croup in which tracheotomy was successfully performed by Dr Dunsmure, along with some good remarks on the subject by that gentlemen. *Vide* Vol. for 1842, p. 101.]

Cure of Nævi by Croton Oil. By M. Lafargue.—Five or six punctures should be made on and around the tumour, with a lancet dipped in the oil, just as in vaccination. Each of the punctures causes immediately a pimple, which in thirty-six hours is developed into a little boil. These boils unite, and form a red hot painful tumour, covered with white crusts, and resembling a small carbuncle. Two days afterwards the scabs separate, and in lieu of the nævus is seen an ulcer which is to be treated on general principles. It would be dangerous to make more than six punctures on a very young infant, as the irritation and fever are considerable.

February 19.

Removal of part of the Base of the Tongue. By M. Sédillot, Professor at Strasburgh.—The left half of the tongue was involved in cancerous ulceration, which extended back very nearly to the epiglottis. The operation was thus described:—After drawing the first left incisor tooth, a vertical incision was made some millimetres to the left of the median line, through the lower lip, the integuments of the chin and neck, down to the os hyoides. A narrow bistoury was then passed behind the corresponding portion of the maxilla, after which the bone was divided by a single stroke of the saw. Two assistants having then separated the branches of the maxilla, the soft parts of the left side were separated as far back as the palate, by means of a straight bistoury, and then the diseased portion of the tongue was removed by an incision through the mesian line, carried out behind with a sweep, parallel with the epiglottis. No difficulty occurred in performing this operation. The lingual artery was tied. The dressing consisted in placing the portions of the maxilla in apposition, and so retaining them by means of a plate of gold, retained in front of the teeth by means of a silk thread. The lip was brought together by means of the twisted suture, and an opening was left in the integuments of the neck, for the passage of pus and mucus.

To-day, (nine days after the operation) the lip is completely re-united, the jaw-bone consolidated, the wounds of the tongue and mouth healed, and every thing in fact indicating complete success. There was no tendency to retraction of the tongue, as the genio-glossus muscle was uninjured.

Tenotomy and Myotomy. By M. Malgaigne.—The object of the author was to point out the abuses and dangers of these operations.

26*th February.*

Prizes.—This meeting ought to have been held at the close of 1842, or, at latest, in the early part of 1843:—the business being to adjudicate the prizes for the years 1841 and 1842. The prizes were awarded as follows:—

1. *Experimental Physiology.*—To *Dr Laurent*, for his "experimental, anatomical, and physiological researches into the mode of development, and manner of life at all periods of existence of the *hydra-communis*, and *spongia fluviatilis*." To the prize of 895 francs were added 2000 francs, to indemnify M. Laurent for his expenses, and enable him to continue his investigations.

Honourable mention was made of the memoir of *Dr Robert Latour*, entitled, "Researches into, and physiological and anatomical experiments to elucidate the mechanism of inflammation, and the pathology of the cold-blooded vertebrata."

2. *Unhealthy occupations.*—A prize of 4000 francs was awarded to *M. Martin de Vervins*, as inventor of a "process for the extraction of starch from flour without alteration of the gluten, or putrid fermentation."

To *M. Lamy*, a prize of 3000 francs was given for "important improvements on the common modes of purifying sulphur."

To *M. Jarrin and Longeoté*, 2000 francs were given, for having "applied to purposes of useful irrigation the putrescent waters of starch manufactories, and converted the residue or deposit into pulverulent manure."

To *M. Chuard*, 2000 francs were given for the "invention of an apparatus for giving timely notice of the formation of explosive mixtures in mines, or in houses where gas light is used."

3. *Medicine and Surgery.*—A prize of 600 francs was given between *M.M. Stromeyer* and *Dieffenbach*,—to the former for having been the first to perform upon the dead body the operation for strabismus, to the latter for having been the first to perform it successfully on the living human subject. The works of MM. Bonnet, Lucian Boyer,[1] &c. on this subject, were reserved for another *concours*.

M. Bourgery and *Jacob* received 5000 francs as the authors of "*Iconographie d'anatomie chirurgicale, et de médecine operatoire.*"

To *M. Thibet* were given 4000 francs, for specimens of artificial pathological anatomy.

To *M. Longet*, 3000 francs were given for his work "on the anatomy and physiology of the nervous system of man, and the other vertebrate animals, with pathological observations on the human nervous system."[2]

To *M. Valleix* 2000 francs were given for his treatise on neuralgia, or the painful affection of nerves.

Honourable mention was made of the researches of *M. Amussat*, "upon the wounds of blood-vessels."[3] Also of the works of *MM. Serrurier et Rousseau*, "upon the air passages in man, and certain animals;" and of that by *M. Philippe Boyer* on the treatment of ulcers by pressure by means of bandages of gummed "diachlon."

Prize subjects for 1845.—The Academy proposes, as the subject for the *great prize* in the physical sciences: "To demonstrate by new and deep study, and by a description accompanied by plates, the reproductive organs of both sexes in the five classes of vertebrate animals, the analogy of the parts which constitute these organs, the progress of their degradation, and the grounds which this affords for the general classification of the species of this type." The competing memoirs must be delivered to the secretary of the Institute, before the 31st of December 1845.

Prize founded by M. Manni.—This is a prize of 1500 francs to be awarded to the best work in reply to the following questions,—"What are the distinctive characters of apparent death? and, what means ought to be resorted to for the prevention of premature interment? In the concourse of 1837 and 1842, no memoirs were presented worthy of the prize, which is the cause of the subject being again announced. Competing memoirs must be given in to the secretary of the Institute, before the 1st of April 1846.

March 5.

Myotomy and Tenotomy.—M. Jules Guérin, in reply to M. Malgaigne, who advanced, among other allegations, that M. G. *divided paralysed muscles*, and that several patients, received into his wards and operated on by him *died*,—said, 1st, I never divided a paralysed muscle, but like others perform myotomy only on *retracted muscles*, and if in some of my patients muscles were paralysed and others retracted, I only operated on the latter, therefore *I do not perform myotomy in cases of paralysis.* 2d, As to the patients who are said to have died in my wards, this is not exact; and in order to be more explicit, I will add, that since I have performed tenotomy in private or public practice, I have operated upon upwards of 4,000 patients without losing one."

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[1] MONTHLY JOURNAL for July 1843, p. 642,—M. L. Boyer's work is there reviewed.

[2] MONTHLY JOURNAL for September 1843, p. 816, where the work of M. Longet is reviewed.

[3] MONTHLY JOURNAL for April 1843, p. 373.

Functions of the Chyliferæ. By Dr Chatin.—According to some authors, the chyliferæ absorb the poisons introduced into the digestive organs; whilst others (Huller, Tiedemann, and Gmelin, Flandin, and Magendie,) affirm that it takes place by means of the venous system. In order to elucidate this subject, I performed a series of experiments:—1st. Eight dogs were poisoned with grs. x of arsenious acid each, mixed with milk. The blood of these animals, incinerated with the nitrate of potass and examined with Marsh's apparatus, gave evident proofs that it contained arsenic. The chyle obtained from the same did not contain the least traces of this metal. In order to obtain more chyle, I followed the precept recommended by M. Magendie, to press the intestines forcibly, and for some time. 2d. The experiment was repeated with tartar emetic instead of arsenious acid, killing the dogs an hour after the introduction of the poison, by opening the carotids. The antimony was found in the blood, not in the chyle. 3d, Two pounds of blood drawn from a patient who had taken large doses of tartar emetic, contained antimony. These facts seem to prove that poisons are absorbed by the veins, and not by the chyliferæ.

March 12.

Books Received.—Travels through the Alps and other parts of the Pennine chain: with Observations on the Phenomena of Glaciers. By J. D. Forbes, F.R.S.E., Sec. R.S.E., Professor of Natural Philosophy in the University of Edinburgh, and Corresponding Member of the Institute of France. Various other English works were received.

On Animal Electricity—Letter from M. Matteuci.—"In all my former researches and experiments, I failed in forming a voltaic pile with living warm-blooded animals; and it was only theoretically that I formed the conclusion, that though the electric phenomena developed by muscular fibre are more and more lasting as the animal descends in the scale, still it ought to be stronger and stronger as the animal is placed higher in the same scale; and at length, after much trouble, I proved this by the following experiment:—The thighs of five live pigeons were flayed; of one, the surface of a muscle was laid bare, of the other the interior. With my galvanometer I obtained a current of 15° from the interior of the muscle towards its surface, which, after a few minutes, was only 6° in a similar direction. The flow and coagulation of the blood is one of the causes of this decrease, for if removed the current increases several degrees. The greatest difficulty is to keep the parts always in contact, and this I obtain by means of small pincers, or a ligature. A comparative experiment with five frogs gave 10°. Thus the electric current developed by muscles is more and more intense as the animals are situated higher in the scale, which proves its affinity with the chemical action of nutrition, and of the formation of tissues from the arterial blood."

Microscopical and Physiological Researches on Tubercle. By Dr Lebert.—The conclusions of the author are:—

1. That the constant microscopical elements of tubercles are granular particles, an inter-globular hyaline substance, and the corpuscles of globules peculiar to tubercles, of an irregular angular shape; angles rounded; contour generally very distinct; containing interiorly, in the midst of a yellowish and somewhat opaline matter, a certain quantity of small grains, but no kernel; but little acted upon by water, ether, or weak acids; dissolved by a concentrated solution of caustic potass, strong acids, and ammonia.

2. The variations in the size of the globules in tubercles are independent of the age of the patient, and the organs in which they develope themselves. The firm yellow tubercle ought to be chosen when we wish to study their composition.

3. Microscopical examination proves that tuberculous matter and its globules cannot be regarded as modified pus, there being a marked difference be-

tween the *corpusculi* of the tubercle and those of pus. The latter are larger, spherical; contain one or more kernels; offer an unequal surface, similar to that of a raspberry; generally free of adherences with, and isolated from each other; whilst the former, especially when firm, are united together. Those of a cancer are three or four times larger, and contain a kernel, in which are two or three smaller ones.

4. In sarcocele, as well as in scirrhus and cerebriform tumours of the breast, a cheesy, yellowish substance exists, very similar to what is met with in a tubercle; but, on examination with a microscope, the kernels contained in the globules of cancer are infiltrated with fat, and it is these kernels which, on softening, offer some resemblance with the corpusculi of the tubercle.

5. When a tubercle softens, its inter-globular substance is liquified; its corpusculi are disunited, become round, and sometimes, by the absorption of the liquid parts, appear larger; this is not to be considered as an increase of size, but, on the contrary, a commencement of decomposition.

6. The pus, which is sometimes found mixed with the softened tubercle, proceeds from the surrounding parts, and never from a transformation of the tubercle itself; but pus changes rapidly the characteristic signs of the tubercle, and renders it difficult to recognise them.

7. The globules of tubercles, when softened, are at length changed into a granular fluid, and the ramollissement becomes this liquid.

8. The microscope shows that the cretaceous substance, into which tubercles are sometimes converted, is amorphous, and mixed often with crystals of cholesterine and the elements of pigmentum. In these cases part of the globules are absorbed, the remaining portion continuing a long time intact.

9. Fat, melanosis, fibres of greenish globules, and crystals, having the shape of those of the phosphate of ammonia and magnesia, are to be found in the tubercles.

10. The elements of inflammation, exudation, suppuration, and the different portions of epithelium, may be perceived by the microscope mixed with those of tubercles; this gives rise to errors.

11. The seat of the tubercles in the lungs is, in general, the inter-vesicular elastic cellular tissue; in some cases they are secreted in the pulmonary vesicles, or the capillary bronchi.

12. The tissue surrounding the tubercles is either in its normal condition or inflamed; in this last case the phlegmasia, whether affecting a lobe or lobule, does not present any specific characters.

13. The degree of consistency of a lung affected with acute or chronic inflammation is more or less according to the fibrin, liquid *blastème*, or globules it contains. When the fibrin is in excess, it is indurated; the predominance of the two latter produce a ramollissement, and the mixture in equal quantities gives rise to a moderate degree of consistency.

14. The grey, semi-transparent granulations of the lungs are composed of tubercular globules; of an interglobular substance, more abundant and more transparent than in the yellow tubercle; and of pulmonary fibres more or less entire. They are not always the origin of the miliary tubercle, for this last exists as such from the beginning.

15. Microscopical examination proves that the grey granulation is not caused by inflammation.

16. The tubercular excavation is a pulmonary ulcer, analogous to an ulcer of the skin, or a tubercular one in the intestines, and is not of necessity the result of suppuration. In general, phthisis is accompanied by an ulcerous diathesis.

17. The liquid contained in the excavations is composed of the following elements:—Tubercular matter, formed by turgid or diffluent globules, pyoid globules, granular globules, mucus and muco-pus globules of blood, pulmonary fibres, black pigmentum, epithelium, crystals, globules of fat. It is, however, very rarely that all are found in the same patient.

18. Under the pseudo-membrane, in which this liquid is contained, exists a

true pyogenic fibro-vascular membrane. In general it is not entire, because the tubercles expelled from time to time lacerate it.

19. This pyogenic membrane is employed by nature to isolate the excavation, and to effect the cure. The cicatrization is frequently hastened by a fibrous secretion, accompanied in some cases by a cretaceous deposit.

20. The expectoration of phthisical patients is composed of mucus, globules of pus, epithelium, an abundant granular matter, proceeding probably from a certain quantity of diffluent tubercular substance, small yellowish pellicles, remains of pseudo-membranes, pulmonary fibres, vesicles of fat, globules of blood mixed with fibrin, granular globules and substances mixed by accident, such as remains of food.

21. The expectoration in phthisis has no peculiar characters, the presence of pulmonary fibres being the only certain proof that it came from an excavation in the lungs; besides which the greater part comes from the bronchi.

22. The thickening of the pleura, which complicates almost every case of tuberculization, is not caused solely by inflammation, but also by increased nutrition. The vascularity of the pleura is greater, because it receives a part of the blood which circulated in the capillary vessels of the surface of the lungs; this membrane becomes thus, in phthisis, a supplementary organ for the circulation, and increases the number of anastomoses with the aortic circulation.

23. No new vessels, independent of the general circulation, are formed around the tubercles, or in the pleural pseudo-membrane, but arise from the general circulation in a centrifugal manner.

24. The cartilaginous transformation of pseudo-membranes is but the development of a dense fibrous texture; their ossification is nothing more than a collection or deposit of an amorphous mineral substance.

25. Tubercles of the bones are not so frequent as is supposed; concrete pus is often mistaken for tubercle. In doubtful cases the microscope alone can decide the question.

26. Scrofulous diseases must be separated from tubercular; the same remark is applicable to chronic inflammations of the eyes, glands, skin, bones, and articulations, in which no particular dyscrasia is appreciable.

27. The grey granulations of the membranes of the brain contain, in a fibrous net-work, tubercular globules.

28. The liver is sometimes the seat of extensive tuberculization, in which case it is often supposed to be affected with cancer; and this last sometimes offers the appearance of the first. With the microscope this error is impossible, as it discovers, in the first case, the globules of tubercle; in the second, the irregular tubercles of encephaloid disease.

29. The fatty degeneration of the liver and heart, (described by M. Bizot,) shows that in phthisis there is a tendency to the formation of fatty deposits in the interior, whilst it disappears exteriorly.

30. Intestinal perforation, caused by the presence of tubercles in the peritoneum, produces, in some few cases, an adhesive inflammation between these organs and the abdominal parietes, and an artificial anus, permitting thus the patient to live some time longer. This intestinal fistula is analogous to those of the bronchi, sometimes met with in phthisical patients on the sternum or neck.

31. The consistency of the firm sub-mucous intestinal tubercle is less than that of other organs. Tuberculous ulcers of the intestines do not secrete pus; all that is seen is the detritus of the mucous and muscular membranes, mixed with diffluent tubercular matter, and cylindrical cells of the epithelium, which might be taken for pus globules.

32. Polypous, melanotic, and tubercular excrescences, are to be met with sometimes on the diseased intestinal mucous membrane.

33. In some extremely rare cases, tubercular matter is found on the walls of the arteries.

34. The pericardium sometimes contains a considerable quantity of tubercular matter in a pseudo-membrane. In a case in which there existed an adhe-

rence between the pericardium and the surrounding parts, the branches of the coronary artery anastomosed with those on the surface of the lungs.

35. Tubercle is not a preservative from cancer, and nothing proves that th one prevents the other, when present, going on as usual through its different stages.

March 10.

Election of Corresponding Members in the section of Medicine and Surgery, vacant, since the death of Sir A. Cooper. Candidates—Sir B. C. Brodie (London), MM. Valentine Mott (New York), Dieffenbach (Berlin), Chelius (Heidelberg), Stromeyer (Munich), and Riberi (Turin). Of forty-three votes, Sir B. Brodie obtained thirty-nine, and was in consequence declared elected. 2. *In the section of Anatomy and Zoology,* vacant since the death of Jacobson. Candidates—*Zoologists.* Ch. Bonaparte, Prince of Canino (Rome), MM. Nilsson (Lund), Kirby and M'Leay (London), E. Deslongschamps (Caën) Goldfuss (Bonn), Dujardin (Rennes), Macquart (Lille). *Anatomists*—MM. Müller (Berlin), Carus (Dresden), de Baër (St Petersburgh), Rathke (Köningsberg), Dalle Chaie (Naples), and Valentin (Berne). The Prince of Canino having obtained thirty votes, and M. Müller only twenty, the former was named corresponding member.

On the Extirpation of the Spleen and Thyroid Gland. By Dr Bardelbin, of Berlin.—Since the publication of my experiments on the effects produced by the extirpation of the spleen and thyroid glands, I have repeatedly performed the operation on dogs, cats, &c., and these experiments have led me to conclude—1*st*, That the extirpation of the spleen in animals which survive, does not seem to affect their health. My experiments were performed on dogs, cats, rabbits, and guinea pigs. All the rabbits died of peritonitis, owing to the depth at which the spleen is situated. 2*d*, That the animals are not more voracious than before the operation. 3*d*, That the organ never grows again. 4*th*, That dogs and rabbits, from which the thyroid gland has been removed, offered no difference, except in one case, in which it was performed on a rabbit, when venereal desire was increased; the which is deserving of notice, as the contrary was said to be the fact. 5*th*, That animals deprived of both, offer no functional disturbance; but as both operations are very dangerous, we must not expect them to succeed often; and among the many cases in which I performed them, only one dog recovered—and it is sufficiently interesting to be quoted. The spleen was extirpated on the 10th of July 1841, and, a month after, the thyroid gland; no consecutive accident took place with the exception of a phlegmon on the neck; at the present moment it is perfectly well, and it is impossible to discover any difference between it and other dogs of the same species. 6*th*, That contrary to the opinion of certain physiologists, the extirpation of the spleen does not decrease the desire for the union of the sexes; and as to its rendering the animal incapable of fecundating the bitch, I have a proof of the contrary in an animal about to pup. 7*th*, That the volume of the spleen is always greater where the organ is removed when the stomach is full, than when empty; owing to the quantity of blood contained in its tissue.

On Cancer, and the utility of surgical operations in the treatment of it. By Dr Leroy d'Etoilles.—Last year I had the honour of presenting to the Academy, documents which had been furnished me by 174 practitioners. These documents show that the average duration of the disease in persons, in whom extirpation was performed, was five years and two months; those in whom it was not, six years; they prove likewise, that the average time from operation until death, is one year and five months. But a point far more important remains to be decided, viz.—whether in operating early, the tumour is prevented from degenerating; this does not appear to be the fact, were I to judge from documents in my possession. Thus on 801 operations, 117 were performed a year after the appearance of the first symptoms; sixty-one had relapsed when I received the documents, and in all probability others may actually be added to the list. In this number I have not included those who died a short time after the operation. In my former memoir I mentioned that *cancrum oris* was more frequent in men than in women, on account of their smoking with very short pipes; but I did not mention the result of the operations which are, nevertheless, curious, on account of the difference presented according to the sex. Thus on 633 men affected with cancer, 165 were seated on the lips; 114 were operated on with the knife, and twelve by caustics; only fifteen relapses took place, or about one-eighth. On 2148 women affected with cancer, thirty-four only were seated on the lips; to twenty-two operated on, seven relapses, or about one-third. This difference is owing to the causes; in men it is external; in women internal. Cancer of the tongue is as frequent in one as in the other sex; of nine operations, three were performed in less than a year after the appearance of the disease; and of the nine, in six the disease relapsed, and caused death. Of 277 operations on tumours of the breast, seventy-three performed only two years ago, the result is still unknown; as to the remaining 204, twenty-two died the year on which they were operated on; eighty-seven have relapsed.

From these facts it may be concluded—1*st*, That extirpation does not prevent the development of cancer a second time, if performed at an early stage. 2*d*, That it ought not to be adopted as a rule, except in cases of cancer of the skin and lips. 3*d*, That in other organs, it is absolutely necessary *only in cases in which the life of the patient is in danger from hæmorrhage produced by ulceration.*

April 1.

Election of a corresponding member in the section of Geometry.—Mr Hamilton of Dublin was chosen.

On the Chemical Phenomena of Respiration. Memoir by M. Gay Lussac.—We regret that our limits only enable us to refer our readers to this valuable paper.

Laryngotomy in Polypus of the Larynx.—*M. Hermann of Strasburg* addressed a letter giving an account of the removal of a polypus, which had formed on one of the chordæ vocales. This fibro-cellular excrescence had protruded between the lips of the glottis, and would have caused suffocation, if the trachea had not been opened and a canula introduced. The next day, the patient being quite calm, the thyroid cartilage was divided, and the foreign body removed.

On Elephantiasis. Dr Daniellsen, Physician to the Hospital St Georges, Bergen, addressed a memoir on this disease, endemic on certain parts of the Norwegian coast, and principally at Christiana, Bergen, and Trondhgern. It is very common in Norway; in 200,000 inhabitants, 1,200 are affected. It shows itself under two forms, elephantiasis affecting the skin, and that which attacks the glands. The autopsies performed by the author, show that there existed in the dermis, as well as in the subcutaneous cellular tissue, a hard granular, and yellowish substance; that this infiltration took place likewise—in the walls of the veins, (so much so, that the basilic was equal in size to the finger,) in the larynx, trachea, bronchi, pleura, liver, spleen, uterus, and intestines,—but what is remarkable, not in the lungs.

All remedies hitherto employed have been unsuccessful.

April 15.

The cause and cure of Diabetes. By M. Mialthe.—M. Mialthe believes, from experimental researches in which he has been engaged, that in diabetic patients the blood ceases to be alkaline, from the acid not being thrown off in the natural way, by cutaneous perspiration:—and, consequently, the chemical reaction by which sugar is converted into an assimilable substance, cannot take place, and nature throws it off by the urine. This points out to us that diabetes is a vice in assimilation or nutrition.

As to the treatment, it is evident, that if this theory be correct, the usual system of giving a purely animal diet is only palliative; and that a radical cure can only be hoped for by administering sudorifics, and giving alkaline preparations very freely.

On the Localization of Poisons.—MM. Danger and Flandin addressed a note, in reply to one from Professor Orfila, in which, after quoting his words, to show that he sought for the poisons in all the organs indiscriminately, they add, "We consider ourselves justified in saying that we first pointed out that in a dog poisoned by antimony, no matter what mode be adopted, the metal cannot be found in the lungs, the heart, the muscles, or the bones, even when the poison was introduced by the lungs, under the form of antimoniated hydrogen gas; it is especially in the *liver*, *spleen*, *kidneys*, and *urine*, that the poison is to be met with. That in poisoning by copper, this metal is not to be found in the heart, lungs, kidneys, urine, muscles, bones, or nervous system; but in the *liver*, *spleen*, and *intestines*. That in poisoning by lead, the metal is to be found in the *liver*, *spleen*, *kidneys*, *urine*, and *lungs*; not in the heart, muscles, bones, or nervous system."

1st July.

Vesication in the Bladder, or false membranes developed on the internal surface of that organ under the influence of cantharides applied to the skin. By M. Morel Lavallée.—Although cantharides when applied to the skin have, in general, no action on the bladder, there are cases where they produce an effect upon it exactly as if a blister had been applied to the internal surface of that organ. This difference of effect appears to depend on idiosyncracy. The size of the blister also appears to have considerable influence in the production of these effects. In every case where these were well marked, the blisters had been very large, sometimes monstrously so.

In the three cases cited by M. M. where the blisters acted on the bladder, one only was applied in the neighbourhood of the organ, viz., over the hypogastrium; the others had been applied to the chest and head.

The anatomical characters of this affection are exhibited in the state of the bladder, and the products of the secretion of the inflamed surface. The false membranes varied in size from that of a sixpence to that of half of a playing card; their edges were irregular and fringed, and their thickness 1 to 3 millimetres. The small shreds escaped from the urethra in the shape of pellets, the others in that of rouleaux. The former were of a greyish-red colour, and mucous consistence, streaked here and there with blood. They had a slight fibrous texture, and were hardened by alcohol. The latter, by much the larger, were of a dull white on the one side, and of a rosy colour on the other; they were firm, elastic, resistent, and composed of a tissue of whitish fibres, having the appearance of the buffy coat of the blood. Albumen was noticed in the urine only in one case.

In all the cases related by the author, the blisters were covered with camphor, a circumstance which diminishes our confidence in that substance as a preservative agent.

As to the treatment, the author recommends the removal of the entire blister and afterwards emollient injections in the bladder.

Vaginal Bath.—*M. Numa Guéin* announced that he had discovered a new method of causing the contents of a general bath to pass into the vagina, and to the neck of the uterus, and to keep the fluid applied to these parts in a continuous and permanent manner. For this purpose he uses catheters and speculums, so modified as to be the conductors of the contents of the bath.

8th July.

On the renewal and regeneration of Vaccine Virus. By M. James.—To obtain the regeneration of vaccine matter, M. J. advises that matter, which has passed through a determinate number of transmissions, should be taken from the arms of children, and applied to heifers; so that vaccination may always take place from matter which has of new passed into the circulation of the cow. By this means, according to M. J., we are enabled to preserve the matter in such a state of energy, as to be a guarantee against small-pox; and also avoid those accidents which are apt to result from matter taken at the natural source. The same heifer may serve for the natural vaccination of a great number of individuals.

In conclusion M. J. makes a distinction between the renewal and the regeneration of vaccine matter.

There is a renewal when the matter is taken from a cow labouring under natural cow-pox, but in this case inoculation often fails, or it may give rise to pustules which become too large and inflame.

M. J. prefers the use of regenerated matter or that produced in a heifer, from the arm of a child, from which it can again be taken.

Chemical Constitution of the Blood Globules.—New Method of Analysing the Blood, by M. Figuier.—The principle of this new method of analysis is based upon a fact observed by Berzelius several years ago. It was found by this chemist, that if a solution of a neutral salt was added to blood deprived of its fibrine, the greater part of the globules remained upon the filter, whilst by the usual method the whole globules passed through. After several experimental essays, M. F. discovered that he could render this curious fact applicable to a rigorous analysis of the blood. He found that on employing a solution of the sulphate of soda, standing at 16 or 18° of the areometre of Baumé, and taking two parts of this solution, and one of blood, the whole of the globules remained on the surface of the filter. On examining the liquid which had passed through the paper, he found that a very few globules, five or six in number, had escaped the action of the filter; whilst the layer remaining on the paper filled the field of the microscope with globules, having little or no interval between them. The analysis accordingly consists of a very few simple operations. By stirring the blood, the fibrine is separated, and its weight ascertained; that of the globules is obtained by collecting them by means of the filter and saline solution; and that of the albumen by coagulating, by means of heat, the filtered liquid: lastly, the proportion of water is ascertained by evaporating a small quantity of the liquid of a given weight. The advantages of this method over that we owe to M. Dumas are evident. There are many sources of error in the latter, and those who employ it are apt to forget that the analysis of the complex matter of the animal economy, can never attain the same certainty as the analysis of mineral substances. So far as regards the comparative value of the two analyses, it is sufficient to state, that in that proposed all the elements of the blood being isolated and their exact weight determined, every source of error can be avoided. It has, moreover, the two following advantages, 1st, that it requires little time, and very simple processes; and, 2dly, we can operate on a very small quantity of blood, a circumstance of considerable importance, when it is recollected that those diseases in which the analysis of the blood is most interesting, are precisely those in which the least can be spared. The preceding observations were made whilst conducting some experiments on the constitution of the blood globules. It is well known that opinions are divided concerning the chemical constitution of these. Many chemists adopt the opinion of Berzelius, and regard the blood globules as chemically homogeneous, and composed of hematosine or the colouring matter of the blood. Other observers have come to the conclusion, on submitting it to a microscopic examination, that the blood globules of the mammiferæ and other vertebratæ, consist of an external covering, and an internal nucleus which differs in composition, from the colouring matter. M. F. believes that he can demonstrate the existence of three distinct substances in the blood globule. 1st, The colouring matter or hematosine. 2dly, Albumen. 3dly, A small quantity of fibrine belonging to the central nucleus, and admitted by some physiologists.

1st, If the globules obtained by means of the filter and sulphate of soda are treated with ammoniated alcohol, the colouring matter of the blood is readily dissolved, and a brown coagulum left. The evaporation of the alcohol leaves a mass of a rich brown colour, having all the characters signalised by M. Lecanu as belonging to hematosine.

2dly, If some of the isolated globules are diluted with water, a blood-red liquid is obtained, which on being filtered, is coagulable by heat, and a precipitate thrown down by acids or alcohol. As hematosine in its solution in ammoniated alcohol, is neither coagulable by heat, nor precipitated by nitric acid in excess, it is probable that there exists both albumen and colouring matter in the blood globule.

3dly, The isolated blood globules treated with a considerable quantity of water, and allowed to remain at rest for 12 hours, deposit a red matter, which, on being washed by decantation, presents all the characters of the fibrine of the blood. The experiment is tedious with the human blood globules, on account of their small size, but the fact is easily determined with the blood of the frog.

In conclusion, M. F. thinks that this mode of operating by means of the filter and saline solution may be extended with advantage to the other fluids of the body. Thus milk treated with the sulphate of soda, leaves a fatty matter on the filter; and after a certain time the liquid passes through quite limpid, and loaded with caseum, which is capable of being precipitated by boiling acetic acid.

On exhalation of Azote during respiration by the Granivoræ.—M. Boussingault read a long memoir entitled " comparative analysis of the food consumed and the excrements passed by a turtle dove." These experiments were undertaken with the view of determining if there be an exhalation of azote during respiration by the granivoræ: in other words, if an adult bird, regularly fed, and whose weight does not increase, gives off by means of its dejections, the whole of the azote contained in the food which it has consumed.

Taking the mean of the result obtained by M. B. in these experiments, we find, that a pigeon weighing nearly 187 gr. consumes, in respiration, during 24 hours, 5.10 gr. of carbon, consequently it gives off in the same space of time, gr. 18.70 of carbonic acid, and gr. 0.16 of azote; or in volume, carbonic acid, 9.441, azote 0.126. Hence, it follows, that the exhaled azote proceeding from the organism, is in the relation of 1,100 to the volume of carbonic acid produced; a result, as to the fact of the exhalation of azote, in conformity to that obtained by Dulong and Despretz, in their experiments, but very different as to the relative quantity.

Considering respiration as a phenomenon of combustion, the data contained in the summary of the experiments of M. B. would indicate, that a pigeon weighing 187 grammes, respiring freely, in an atmosphere at 8 or 10 c., and where it consumes in two hours, gr. 5.1 of carbon, and gr. 0.07 of hydrogen, may disengage a sufficient quantity of caloric to maintain its body at a nearly constant temperature of 41 or 42, volatilising, at the same time, the water given off by pulmonary and cutaneous transpiration.

Saccharine Diabetes cured by Alkalies and Sudorifics. By MM. Mialhe and Coutour. The subject was a man, aged 43, in whom the first symptoms of the disease manifested themselves after a very profuse hemorrhoidal discharge. The presence of sugar in the urine had been verified for 18 months. The quantity was 45 grammes per pound. The patient was very feeble, had no cutaneous transpiration, and never felt any desire to go to stool. He was put upon a highly animalized diet, the use of vapour baths and flannel. He was ordered the following mixture. Bicarb. soda, 4 grammes; calcined magnes. 1 gr. At the end of a week the dose of soda was augmented, and gradually increased to 6.8, 10, 12, grs., the quantity of magnesia remaining the same.

Under the influence of this treatment, the quantity of sugar in the urine gradually diminished, and now there is no longer a trace of it, although the patient takes milk, bread, fruit, &c. His strength and all his other functions are quite restored.

The authors explain the cure in this case by a fact previously published by one of them, viz. that under the influence of alkalies the assimilation of sugar again becomes possible; the diabetic affection does not consist of a too great secretion of sugar by the stomach, but in a want of assimilation of the sugar contained in the food. This want of assimilation, according to these gentlemen, is owing to the blood, in diabetic patients, not containing the necessary proportion of free alkali or carbonate necessary for effecting the decomposition of the sugar.

Researches on Creasote.—M. Deville stated that his researches on this subject had led him to the conclusion that there is a complete analogy, both as regards chemical composition and physical characters, between hydruret of guaiacum and creasote, so much so that the former may be regarded as an oxide of the latter. The formulæ of these bodies are, hydruret of guaiacum, C^{28} H^{16} O^4. Creasote, C^{28} H^{16} O^2 +2 vapour.

The former assumes a brown colour on the addition of a salt of iron, the latter a blue. Brome united to creasote, forms a crystallisable acid, the half of the hydrogena of the creasote being replaced by the same quantity of brome; both with sulphuric acid and chromate of potash, form a salt of chrome, analogous to tartro-chromic acid.

9th July.

Vesico-vaginal Fistulæ.—M. Berthet (*de Gray*) read three cases of this disease cured by means of cauterisation and insufflation. His method, after rigorous preparatory measures, is to keep the bladder distended by means of insufflation, during the whole of the operation. The edges of the fistula are thus made to project into the vagina, after which, he irritates them by means of the actual cautery, and subsequently, uses the nitrate of silver instead, keeping the vagina plugged with cylinders of lint, and the patient in such a position, that the urine cannot come in contact with and irritate the edges of the wound. He also keeps the patient on a severe dietetic regimen, allowing liquids only by spoonfuls at a time, and at considerable intervals, with dry toast, biscuit, and boiled or roast meat in very small quantities. By this severe regimen he greatly diminishes the quantity of urine, the only obstacle to the cure of this complaint. He has cured 3 out of 4 cases.

22d July.

Handle of a Spoon extracted from the Bladder of a Woman. By M. Leroy d'Etoilles.—When entire, it lay crossways in the bladder. Owing to this circumstance, and the contracted state of the organ, he was obliged to break it in two. Each fragment was afterwards extracted by an instrument invented by the author. It was exhibited.

30th July.

Fragments, on the Genito-urinary organs of Reptiles, and their products.—A paper with this title was read by M. Duvernay. The work consisted of two parts, the one relative to the calculi found in the bladders of the chelonia, the other on fossil urilithes.

Lumbar Enterotomy.—M. Amussat read a paper on this subject. (For the details of the case see Periscope, p. 872.)

26th August.

Two cases of Imperforate Anus operated on with success. By M. Louis Baudelocque.—CASE 1. A child, two days old, who had passed no meconium, was brought to M. Baudelocque. It was restless and cried continually; its belly was distended, and there were signs of congestion about the head. M. B. introduced the little finger of the left hand into the rectum, and found that it terminated in a cul-de-sac at a short distance from the anus; along the palmar surface of the finger he introduced a trocar, and pushed it through the obstructing membrane; as soon as it was withdrawn, meconium and flatus escaped in great quantity. Three months afterwards, the child continued well.

CASE 2. *Operation by Calliscus' method, or Lumbar Enterotomy.*—A girl born the previous evening was brought to M. Baudelocque, having all the symptoms above described. He punctured the obstructing membrane; but not being able to feel the descending colon, determined to operate. The operation appeared the more necessary, as the child was vomiting meconium. Having been placed on its right side, M. B. made a transverse incision in the left lumbar region, 27 millimetres in length. He then cautiously divided the aponeurosis of the external oblique, and some of the fibres of the quadratus lumborum, and soon recognised the descending colon resting on a bundle of fat which lay between it and the spine. He opened it, and meconium escaped in great quantity; he then fixed the intestine by means of three stitches. Next day the child continued well, and sucked; the second day erysipelas supervened in the neighbourhood of the wound; from the second to the third day there was tension and tenderness of belly, vomiting and colic, causing the child to cry much. Leeches were applied to the epigastrium and neighbourhood of wound.

Next day, (fourth), the symptoms were aggravated. The child was now put to the breast of a good nurse; the cries ceased, and there was a return of heat; the dejections became regular and healthy. Eight days after the operation, the child had gained flesh; the mucous membrane of the colon was of the natural colour; it was inverted, as in all cases of artificial anus; the appearance of the wound was healthy, and the child in perfect health.

In the reflections made by M. Baudelocque on these two cases, he indicates the causes of the casualties which followed the operation of enterotomy, in order to guard against and avoid these in future. He first remarks that the advice given by Sabatier and Boyer, and others practising stitches in the intestine, is erroneous; it is based on the idea that the intestine is loose in the abdomen, whereas, on the contrary, it is fixed. Second, he thinks it would have been better to have made a transverse than a longitudinal incision in the intestine; because the edges of the wound would not have retracted so much, nor become inverted, after the operation. Lastly, the inferior end of the colon ought to have been explored, in order to ascertain if there was no means of establishing a communication between it and the rectum.

Arythenoid Ganglion.—M. Barkow, professor in the university at Breslau, described a new ganglion found by him in man, and which he has named the Arythenoid ganglion. The inferior laryngeal nerve gives, if at the inferior and lateral part of the cricoid cartilage, a branch (ramus crico-arythenoideus) which, according to M. Blandin, ascends between the posterior surface of the cricoid cartilage and the crico-arythenoid muscle, passing upwards and outwards, over the superior margin of the cricoid cartilage, and between the fibres of the arythenoid muscle (oblique and transverse). At this point the nerve enlarges to form a ganglion of about the size of a line, and of an oblong shape. Nervous twigs are given off from this ganglion, and ramify in all directions; the most internal of these twigs penetrate to the mucous membrane of the larynx. M. Barkow has not found this ganglion in the ox; he has not sought for it in other animals.

Structure of the Uterus.—M. Pappenheim, professor in the same university, presented several works on medicine and physiology to the Academy. One of these works is in reference to the structure of the uterus. He considers it under three different points of view; first, in regard to the general arrangement of the fibres, which, according to him, consists of two spiral sets of fibres; and next in regard to the different regions of the organ, and its elementary parts. By means of three transverse sections, he has discovered that the superior portion of the body of the uterus is composed of three layers, the external of which is made up of bundles of fibres of large size, the middle consists of a network of fibres arranged in a zig-zag form; the internal is formed by the smallest fibres, which go to surround the capillary vessels. In the human subject there are other two layers of distinct fibres.

The second section, comprising the inferior portion of the body of the uterus, has the same layers, differing in this respect, that the external layer is smaller than the middle one, and that has circular fibres, and that the internal is very thick, and consists of fibres which are peculiar to itself. The third section includes the neck of the uterus, and is formed almost exclusively of oblique fibres.

The elementary parts of the uterus are made up of muscular fibres constituting its proper substance. These fibres are very small previous to pregnancy; they become larger during pregnancy, and afterwards decrease, but they still remain larger than previous to pregnancy. The groups of fibres also differ in some particulars, both during the state of pregnancy, and also before and after it. Whence, adds the author, the idea of the speciality of an organ is exhibited by nature, not only in the tissues of that organ, but also by the characters of the regions, and of its most elementary parts, and that each part of an organ has its own peculiar function; in a word, that the special function of an organ is called into action by the special nature of its structure.

FRENCH ACADEMY OF MEDICINE.

(Continued from p. 448.)

21st May.

Epidemic Ophthalmia.—M. Velpeau read a report on the work of M. Morand, Physician to the Agricultural Colony of Mettray, on a scrofulous epidemic ophthalmia. M. M. having observed, not only in this epidemic, but in other cases, that the inflammation of the eye was very generally preceded by coryza, laid down the principle, that there is a coincidence of inflammation of the pituitary membrane with that of the conjunctiva. Entertaining this view, he was led to adopt a new mode of practice, and directed his attention to overcoming the coryza; for this purpose he cauterised the nasal fossæ by means of the nitrate of silver. From this practice he derived the greatest benefit. M. Velpeau objected to the term "scrofulous ophthalmia," and also attacked all the classifications of ophthalmia according to their presumed causes. The principal point to be considered is, the seat of the inflammation.

M. Roux maintained the utility of classifications based on the nature of the cause. It is certain there do exist scrofulous ophthalmiæ requiring a special treatment.

MM. Martin-Solon, and Rouchoux supported the views of M. Roux. The latter gentleman also remarked, that the cauterization of the nasal fossæ adopted by M. Morand, probably acted in the same way as a blister applied to the temple.

28th May.

The greater part of this sitting was devoted to a discussion regarding the mode to be pursued in reference to the erection of a bust of Dupuytren in the hall of the Academy.

M. Pariset next read a report on the work of M. Lachèse regarding a species of scurvy, which attacked the wounded in Arabia, and to which the name of plaie de l'Yémen, or that of l'Hedjaz has been given. It is to be regretted that in his analysis, M. P. entirely omitted to mention the symptoms of the disease.

4th June.

Orthopedic Commission.—Stormy discussion.—M. Roux in name of the commission appointed to examine the memoir of M. Malgaigne on myotomy and tenotomy, stated, that the members had commenced their labours by requesting M. M. to exhibit the patients on whom he had operated. Only one appeared. In order, therefore, to verify the facts, it was resolved that they should go and visit the patients; and a decision to this effect was come to. But two of the members, constituting the minority, refused to submit to this decision. The majority, therefore, referred the whole matter to the Academy.

M. Adelon considered this difference of opinion as of little consequence; in every commission the minority must give way to the majority.

M. Gerdy thought the minority were to blame.

M. J. Cloquet, one of the minority, declared that the decision of the majority was one quite unworthy of an Academic commission; in refusing to join in the course proposed, he did no more than consult his own dignity.

M. Husson stated, that 40 years ago, the commission on vaccination, composed of Thouret, Sédillot, Pinel, and himself, did not conceive they were at all derogating from their dignity in visiting patients for the purpose of eliciting and verifying all that it was of importance to know.

M. Adelon recalled to their remembrance similar precedents,—the commission on the waters of Vichy, and animal magnetism, &c.

M. Guérin rose to speak. (Cries of no, no.)

M. Desportes. Hear M. Guérin, he is perhaps going to exhibit his patients to you. (General laughter.)

M. Guérin declared that the inquiry which the commission were instituting was vexatious. He wished, however, to throw no obstacle in its way, but he certainly could not countenance it.

M. Roux requested the nomination of two new members to the commission. This proposition was adopted. Nomination next sitting.

11*th June.*

M. Roux thought it important before proceeding further, to ask M. Guérin if he still meant to persist in throwing obstacles in the way of the commission on myotomy. For M. Guérin not only opposes the inquiry, a circumstance perfectly inexplicable, but in his Journal, heaps abuse on the members forming the majority. I have the honour, continued M. Roux, to be a sharer of this abuse along with MM. Velpeau and Gerdy, and several others of my colleagues. I say honour, for under the circumstances I consider it an honour.

M. Louis read a paper in which he endeavoured to establish the three following points:—1. It is an indecorous proceeding to visit patients without the consent of their physician. 2. A commission has been already named by the Council of Hospitals, which is occupied with the same subject. 3. The commission of the Academy can arrive at no conclusion, for supposing it ascertained that the 24 patients adduced by M. Malgaigne are not cured, M. Guérin only announcing 24 cures out of 155 patients, it will be impossible to say if the subjects of M. Malgaigne are not included in the category of those returned by M. Guérin himself as not cured.

M. Gerdy.—I concur with M. Louis. It is indecorous to pry into the private practice of a colleague. But that is not the question. Gentlemen, if a physician declares, and publishes that he has effected miraculous cures,—cures hitherto unaccomplished by any but himself,—and if, after this flourish of trumpets, the same physician refuses all inquiry, and conceals the proofs of his vaunted success,—it is the bounden duty of the medical press, the guardian of the dignity, honour, and truth of science to enquire whether such assertions be true or false; moreover, if it finds such assertions inaccurate, ill founded, and false, it is alike its right and duty to declare it. It is merely the part of a good citizen, (Bravo.) And if the man whose assertions, after due inquiry, are thus contradicted, alleges calumny, and replies by abuse, it is he alone that is the calumniator. (Great sensation.) You say that the passions are involved in this scientific question; be it so: but what tribunal more competent, and impartial to get at the truth than the Academy? In the name of humanity and of science, I implore M. Guérin to exhibit his cures. If they exist, I will be the first to acknowledge them. But if he persists in concealing them, then I persist in declaring his conduct ambiguous; and call upon the Academy to do its duty. It has also been said that the usages of society are opposed to the course proposed; between usages on one side and duty on the other, I shall never hesitate to range myself on the side of duty. (Prolonged applause.)

MM. Royer-Collard, Barthélemy, Nacquart, and *Castel* successively took part in the discussion. They declared themselves shocked with the scandal of such a discussion. They feared it would tend only to lower in estimation one of the members of the Academy, and consequently compromise the Academy itself.

M. Velpeau.—If there be scandal, let us know whence it arises. It is incorrect to say that the commission named by the Council of Hospitals had the same objects as their commission; it was entirely different.

M. Orfila stated that the hospital commission was instituted for the purpose of verifying the facts of M. Guérin.

MM. Velpeau, Roux, and *Gerdy* protested against this assertion.

M. Desportes declared that the circumstances under which the hospital commission was named were such as from the very commencement to compromise its character.

M. Blandin denied this.

After a stormy discussion the following propositions were submitted to the Academy. 1st, The order of the day to name two new members for the purpose of strengthening the commission. This was put to the vote and lost. 2d, A proposition to annul all that had been hitherto done, and to prevent the commission from pursuing the subject further. This was likewise rejected. Consequently the commission remains *in statu quo*, and for the accomplishment of its object.

Case of Calculus and Vesico-vaginal Fistula. By M. Ségalas.—It is well known, said M. S., that vesico-vaginal fistulæ are exceedingly difficult of cure. The Academy may recollect that it was stated within these walls by M. Blandin, that the cure of such fistulæ, with loss of substance, was almost impossible, owing to the position of the ureters, which in these cases, are always involved.

On the other hand, it is equally well known that calculus in the female is rare. I hope, therefore, that the case of complication of these diseases which I now present to the Academy will not be without interest. The woman, the subject of it, consulted me four years ago. On examination, I discovered a vesico-vaginal fistula, the result of a difficult labour, and also a calculus, apparently produced by the irritation of the fistula, or rather from the vesical catarrh which accompanied it. I easily destroyed the stone, and removed it by lithotrity at two sittings. I then attended to the fistula. I introduced a gum-sound into the urethra, and by the help of the speculum, cauterised the edges of the fistula with nitrate of silver. These cauterisations were repeated with marked improvement. At the end of three months the fistula was closed, and has continued so. I thus consider the cure as complete.

M. Amussat asked if this was really a case of vesico-vaginal fistula, or merely a urethro-vaginal one. They had often been confounded. The latter, as every one knows, is easily cured. He had cured many himself. But he did not know a single case of cure of vesico-vaginal fistula.

M. Ségalas.—It was a vesico-vaginal fistula, and not a urethro-vaginal, as M. Amussat appeared to think. The urine escaped incessantly through the wound, which would not have happened had it been a urethro-vaginal fistula. It was easy, moreover, to see by means of the speculum, the nature of the case.

Case of Monstrosity. By M. Pierquin (d'Issoudun).—The case was that of a female fœtus born at the full time, but of very diminutive stature (5 inches), and ill developed. The mother usually enjoyed good health, and had an easy delivery. The placenta was carcinomatous, and the conception, as it were, blasted.

Two folds of skin commenced at the upper margin of the parietal bones; at first they enlarged considerably, like the half of a paper kite, but afterwards decreased in size, till they terminated at the lumbar region. The ears and arms were placed in front of these cutaneous wings, which could be distended at pleasure, like a balloon, by insufflation. The wings gave the fœtus the appearance of one of the chiropteræ (bats). The villi of the skin of the cranium, and the wing-like folds, were only distinguishable by means of a magnifying glass. M. Pierquin denominated this abnormal structure lumbocephaloptère. The same subject presented the faulty conformation called by M. Isid. Geoff. St Hilaire, Polyopte Humain.

16th July.

On the presence of Arsenic in the soil of Church-yards. By M. Ollivier (d'Angers.)—Two years ago, M. Orfila read a paper to the Academy, in which, amongst other propositions, was the following:—Arsenic being insoluble in water, it is impossible that a body interred in a soil containing that substance, can absorb it. The following case confirms the theory of M. Orfila. A widower was accused of having poisoned his wife; but on dissection, other lesions were found, sufficient to account for death without poisoning. Again, a woman, desirous of marrying this widower, poisoned her husband. On dissection, there were found manifest traces of arsenic. There being a difference of opinion among those sent to examine into the affair, there was a new exhumation of the body of the man, and in the bowels, and some of the soil, sent to Paris, arsenic was detected. Marsh's apparatus showed incontestible proofs of arsenic in the liver. Exhumation of the woman's body was also ordered. But though the body had remained several months in the arsenical soil, it was impossible, on analysis, to find the slightest trace of it. The existence of arsenic in soils being thus confirmed, it follows that this circumstance will offer no impediment to the course of justice, for the insolubility of the arsenic in these soils, renders its absorption by the bodies impossible.

M. Roux.—How does M. Ollivier explain the presence of arsenic in the soil of church-yards?

M. Ollivier.—It may arise from several causes. It is well known since the researches of Chevallier and those of Orfila, that it is not uncommon to find arsenic in the soil of such places; this arsenic is most generally derived from old rubbish, (débris) and is most frequently found in alluvial soils. It exists, however, in the native state, in certain soils. M. O. cited a locality, the name of which escaped us, where an open arsenical iron mine is worked. There is another circumstance which may explain the presence of arsenic in certain soils, and that is the custom pursued in certain localities of pickling grain with arsenic.!

M. Boullay.—The presence of arsenic in soils appears to me inexplicable. I should like to know in what state it is found.

M. Chevallier.—Arsenic, in the natural state, exists in several localities. At Saint Marie aux Nismes, in the department of the Vosges, it is found in great quantity. In general when arsenic is found in soils adjoining small localities, it is in vain to attempt to explain its presence by means of an accidental deposition of rubbish containing this substance. It is only at Paris, where there is an enormous consumption of arsenical preparations in the industrial arts, that arsenic may thus be found in soils where rubbish is transported. But in small localities, where this circumstance cannot be admitted, the explanation of the presence of arsenic must be sought for in the geological conditions of the soil, a subject of study of the very highest importance and interest.

M. Orfila.—In the memoir which I had the honour of reading to the Academy, I had in view the solution of two different questions. 1. Can a body which has been poisoned by arsenic yield the contained arsenic to the surrounding soil? I answered this question in the affirmative: and, 2. Can an arsenical soil transmit the contained arsenic to a body deposited in it? My answer was negative. As to the accidental presence of arsenic in the soil of church-yards, it will be recollected I was the first to point it out. I will not go back upon the first question, as it is not actually before us; I confine myself to the remark that my answer to the question as to the impossibility of the transmission of arsenic from the soil to the body, has been verified by the fact just communicated by M. Ollivier.

M. Chevallier.—I merely wish to say a word regarding the latter question. The existence of copper in the bones of those engaged in the working of this substance, has lately been discovered. In making further researches on this subject, copper has been found in the soil of a church-yard, in a locality where this metal is manufactured, and which consequently contains many of the bones of the workmen who have passed their lives in this kind of labour. This is a curious fact; and I shall return to it in a report I shall make to the Academy on the subject.

23d July.

On the Juice of the Urtica Urens as a Hemostatic.—M. Merat read a communication from M. Ginestet, the object of which was to call attention to the hemostatic properties of the juice of the urtica urens. From the cases detailed in the paper, a rapid analysis of which was given by the reporter, it appeared that the juice was given in several cases of uterine hemorrhage, in the dose of two and four ounces, that it produced a considerable and rapid diminution of the hemorrhage, and in some cases a complete cessation of it after one dose of the medicine.

Bite of a Viper.—M. Dumeril gave in a report on a case of bite of a viper, cured by caustic. From the analysis of the case given by the reporter, it appeared doubtful whether the punctures in question were really produced by a viper; consequently the cure said to be produced by the caustic was, under the circumstances, of no value.

27th August.

Traumatic Lesions of the Spine.—*M. Ségalas* read a paper on traumatic lesions of the spine, and their influence on the urinary organs. The memoir owed its existence to two cases of traumatic lesion of the spine which occurred to M. S., in both of which retention of urine immediately followed the spinal lesion. Incontinence of urine afterwards came on, but more gradually. In both cases the urine remained for a considerable time transparent; it only assumed a catarrhal character after the long use of a sound retained in the bladder.

In the patient who used the sound a phosphatic calculus was formed; in the other, up to this period, there is no threatening of any calculous affection.

The first patient, immediately after the wound, suffered from frequent and continued erections; these gradually diminished, and at last disappeared. The second, on the other hand, presented nothing remarkable in this respect, neither at the time of the accident, nor since.

The two patients appeared to have retained, or rather recovered their sexual desires, but with very different states of the genital organs. The one, whose lesion appeared to be at the junction of the dorsal and lumbar vertebræ, was capable of having sexual intercourse; but the other, whose lesion was in the dorsal region, had lost the power of erection.

The consideration of these two cases led M. Ségalas to inquire into the influence of traumatic lesions of the spine on the functions of the genito-urinary organs. The following are his conclusions:—

1st, Traumatic lesion of the spine does not prevent the secretion of urine.

2d, It does not directly affect the composition of that fluid.

3d, The change which takes place in the composition of the urine, at a later period, is the result of catarrhal inflammation of the bladder, produced either by retention of the urine in the organ, or by the irritation caused by a sound, and this with or without the concurrence of other causes.

4th, Traumatic paralysis is always, at the commencement, complicated with retention of urine. The incontinence of urine which, in the absence of appropriate remedies, succeeds to this second disease, arises firstly, from over-distention of the bladder, whereby it can receive no more fluid; and, secondly, from the organ becoming inflamed, and so being incapable of discharging its function as a reservoir.

5th, Traumatic lesion of the spine does not prevent the secretion of semen.

6th, It does not sensibly alter the composition of this fluid.

7th, It often excites erection without desire, which state may be followed by desire without erection.

8th, It does not always permanently prevent sexual intercourse.

9th, It does not prevent conception or gestation; but when this lesion has occurred, parturition both in the lower animals, and the human subject, requires artificial assistance, either physical or mechanical.

Considered in a surgical point of view, the facts established in this memoir lead to results of the greatest importance in practice; among others, the bladder ought to be regularly emptied in every case of traumatic paralysis; the catheter ought not to be left in the bladder; and all remedies which have an irritating action on the organ ought to be avoided.

From these conclusions, then, it follows, that the spinal cord has no influence on the functions of the kidneys, testicles, or ovaries, and none, moreover, on the conditions of the urine, semen, or fœtus; on the other hand, however, the bladder, vesiculæ-seminales, and uterus, are under its immediate influence, and the expulsive powers of these different organs are more or less deranged by its traumatic lesions.

(To be continued.)

PORTRAITS OF THE MEDICAL FACULTY OF THE UNIVERSITY.

Mr Schenck of Edinburgh is bringing out a most admirably executed set of portraits of the members of this illustrious body. The likenesses which we have seen—those of Dr Christison and Munro—are very striking. The prices are so moderate, that the sale is likely to be great.

BOOKS RECEIVED.

(Continued from p. 736 of the August number.)

55. A Practical Treatise on Midwifery. By M. Chailly, M.D., and ex-chief of the Obstetric Clinique of the Faculty of Paris, &c. *Illustrated with 216 woodcuts.* A work adopted by the Royal Council of Public Instruction. Translated from the French, and edited by Gunning S. Bedford, A.M., M.D., Professor of Midwifery and the Diseases of Women and Children in the University of New York. 8vo, pp. 530. New York: 1844.

56. The actual process of Nutrition in the Living Structure, demonstrated by the Microscope; and the renewal of the tissues and secretions, with the phenomena and products of Inflammation, illustrated and established. [*Second series of Experimental Researches.*] By William Addison, F.L.S., &c. 8vo, pp. 76. London: 1843.

57. Report of the Directors of the Montrose Lunatic Asylum, Infirmary, and Dispensary, (instituted 1781,) for the year ending June 1, 1844. 8vo, pp. 32. Montrose: 1844.

58. Defence of Hahnemann and his doctrines: including an Exposure of Dr Alexander Wood's "Homœopathy Unmasked." 8vo, pp. 102. London: 1844.

59. Sequel to "Homœopathy Unmasked:" being a farther exposure of Hahnemann and his doctrines, in reply to recent anonymous pamphleteers. By Alexander Wood, M.D., &c. 8vo. pp. 90. Edinburgh: 1844.

60. The Plagiarisms of Julius Jeffreys, F.R.S., in his Treatise on the Statics of the Human Chest. By G. Calvert Holland, M.D., &c. &c. 8vo, pp. 36. London: 1844.

Reviewed at page 788 of last number.

61. Traité Elémentaire et Pratique de Pathologie Interne, par A. Grisolle, D.M.P., Médecin des Hôpitaux et Hospices civils, &c. *Deux volumes,* 8vo, pp. 812, et 592. Paris: 1844.

The latter part of the second volume of this extremely valuable work has not reached us; but we believe will arrive before the publication of next number.

62. Retrospect of Practical Medicine and Surgery. Vol. IX. January—June 1844. 12mo, pp. 339. London: 1844.

63. Chemistry, as exemplifying the Wisdom and Beneficence of God. By George Fownes, Ph. D., Chemical Lecturer in the Middlesex-Hospital School. 12mo, pp. 1844. London: 1844.

64. First Lines for Chemists and Druggists preparing for examination before the Board of the Pharmaceutical Society. By J. Steggall, M.D., &c. 12mo, pp. 169. London: 1844.

65. The Glasgow Bills of Mortality for 1841 and 1842, drawn up by appointment, and under the authority of the Lord Provost, Magistrates, and Town Council. By Alexander Watt, LL.D. City Statist, and Secretary to the Statistical Section of the Glasgow Philosophical Society, &c. 8vo, pp. 105. Glasgow: 1844.

Reviewed at p. 844 of this number.

66. Fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. [*Second edition, revised and corrected.*] 8vo, pp. 603. London: 1843.

67. Modern Surgical Instruments, chiefly of France and Germany, Illustrated. 8vo, pp. 16,—*plates.* London: 1844.

68. On the Decrease of Disease effected by the progress of civilization. By

C. F. H. Marx, M.D., Professor of Medicine in the University of Göttingen; and R. Willis, M.D., Member of the Royal College of Physicians. 12mo, pp. 102. London: 1844.

69. Observations on the Treatment of some forms of Malignant Phthisis. By Joseph Bell, Member of the Faculty of Physicians and Surgeons of Glasgow. 8vo, pp. 22. Glasgow: 1844.

70. The Nature and Treatment of Deafness, and Diseases of the Ear; and the Treatment of the Deaf and Dumb. By William Dufton, M.R.C.S. 8vo. pp. London: 1844.

71. A Practical Treatise on Diseases of the Eye. By William Jeafferson, late Surgeon to the Bombay Eye Infirmary, &c. 8vo. pp. 307. London: 1844.

72. Thèse sur la question suivante: De la Claudication. Par L. Voillémier, Professeur Agrégé á la Faculté de Médecine de Paris, &c. &c. Quarto, pp. 62. Paris: 1844.

73. Du Climat et des Maladies du Brésil; ou Statistique Médicale de cet Empire. Par J. F. X. Sigaud, D.M., Médecin de S. M. l'Empereur Dom Pèdre II., &c. 8vo, pp. 591. Paris: 1844.

This work contains a great amount and variety of information, which will be found useful by the practitioner in all climates.

74. Traité Philosophique et Clinique d'Ophthalmologie, basé sur les principes de la Thérapeutique Dynamique. Par M. F. Rognetta, Docteur en Médecine et en Chirurgie, Professeur de Pathologie Externe, Redacteur en chef des "Annales de Thérapeutique et de Toxicologie." 8vo, pp. 724. Paris, 1844.

75. Mémoires pour servir a l'Etude des Maladies des Ovaires. Prémier Mémoire contenant, 1°. Les considérations Anatomiques et Physiologiques; 2°. L'Agnesie et les vices de conformation des Ovaires; 3°. *L'Inflammation Aigue des Ovaires (Ovarite Aigue).* Par Achille Chereau, Docteur en Médecine de la Faculté de Paris, &c. 8vo, pp. 189. Paris, 1844.

This is one of the best monographs with which we are acquainted on diseases of the ovaries.

76. Geology; Introductory, Descriptive, and Practical. By David Thomas Ansted, F.R.S., Fellow of Jesus College, Cambridge, Professor of Geology in King's College, London. 2 vols. 8vo, pp. 506 and 572. London: 1844.

Plain, clear, and concise, presenting an admirable view of the present state of geology, and in a style calculated to render it a highly popular, and at the same time standard work.

TO CORRESPONDENTS.

All Letters received up to the 21st September have been answered.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Obstetric Memoranda.* *By* ALEXANDER MAXWELL ADAMS, M.D., *Member of the Faculty of Physicians and Surgeons of Glasgow.*

(Read before the Glasgow Medical Society).

FOR some years past I have kept a register of all the midwifery cases that have occurred in my own practice, and also those to which I was at any time called by other practitioners; during which period I have been in the habit of carefully noting any peculiarity which distinguished any of them from what are denominated natural cases. Of these last I have only thought it necessary to note the patient's age, the number of children previously borne, the presentation, and the sex of the infant. I do not, however, profess to have drawn out these notes with anything like statistical minuteness, and am fully sensible of their manifold deficiencies. I only wish them to be regarded as a crude collection, calculated to confirm, in some small degree, the results deducible from the more elaborate researches and observations of others.

I may here observe, that not deeming it advisable to burden the leading narrative of this paper with the details of any cases beyond those considered necessary for illustrating the topics immediately under discussion, I have superadded many of them in the form of an appendix, where they may be more conveniently referred to as additional confirmatory evidence of the validity of the major propositions which my own cursory observations are meant to elucidate or establish. I should likewise, perhaps, remark in reference to the comparatively large amount of severe, difficult, and fatal cases included in my memoranda, that the greater number of them did not in the first instance occur in my own practice; my assistance having been only supplementary to that of other practitioners previously in attendance; I have, nevertheless, from my share in the management of these cases, assumed a right to register them in my own list, and to transfer the facts and particularities which they severally presented, to the paper which I have now the pleasure of laying before the Society.

First, in the order of my notes, I will proceed to consider,

NATURAL LABOURS,

or such labours as were of ordinary duration, in which the head presented, and which, without any unusual occurrence having supervened in their progress, were concluded without injury to the mother. Of this class my notes embrace a range of 569 cases; and of these, I find I have noted the position in which the head presented in only 300; and although cranial presentations have been multiplied by many scientific writers, up to the number of eight, yet after the most carefully conducted examinations, I have myself been so unfortunate as to have discovered only three. Thus in 291 cases the occiput lay towards the left cotyloid cavity; in 8 the forehead was directed towards the same part; and in 1 the occiput was towards the right cotyloid cavity. In other words, there were 291 left occipito-cotyloid, 8 left fronto-cotyloid, and 1 right occipito-cotyloid presentations. That the cranium should have been detected in the latter position only once is rather curious, for according to several authorities, it is next in frequency to the left occipito-cotyloid. My experience is not, however, singular in this respect, for the celebrated Nægelé found the head in the right occipito-cotyloid position only once in 1290 cases. He accounts, as is well known, for the circumstance of other practitioners meeting this presentation so often, by the fact of the head of the infant, in the great majority of instances, undergoing a spontaneous change from the third or left fronto-cotyloid to the second, or right occipito-cotyloid position, and suggests the idea that the examination made by these individuals had only been instituted after the evolution described had taken place.

Regarding the left fronto-cotyloid presentation just alluded to, it occurred in Nægelé's practice in 29 cases out of every 100, and according to his statements, it almost *invariably* undergoes a spontaneous and favourable change before the head begins to protrude at the os externum. I have observed but 8 presentations of this nature, and in 3 only did the change referred to by Nægelé take place. In 5 of my cases the head maintained its original position, and was expelled with the forehead towards the pubis. In connection with this subject, it will be interesting briefly to inquire whether the practice recommended by Nægelé and others of his school, or that advised by Smellie, Clarke, Dewees, &c., is the most advisable. The former think we ought to depend solely upon the efforts and resources of nature so long as no untoward symptom arises to warrant operative interference, while the latter maintain that the presentation should be mechanically changed into Nægelé's second or right occipito-cotyloid position, as soon as possible after the accident has been discovered. A number of cases would be necessary to determine this question with sufficient accuracy, and seeing that my own practice has furnished such a small amount to judge from, I will avail myself of that of others who have had more ample opportunities.

Dr Murphy, in one of the numbers of the *Dublin Medical Journal*, gives the particulars of 12 cases in which the forehead was directed to the anterior part of the pelvis, and in every one of these the spontaneous turn backward, described by Nægelé, took place. In only one did the labour occupy more than 12 hours. It was a first labour, and the patient was somewhat advanced in years. The first stage extended to 11 hours, and the second to 7, making in all 18 hours.

In my own three cases of the same description, I find that the labour in one occupied 7, in another 11, and in the third (a primipara) 18 hours.

Dr Murphy furnishes the following table to show the duration of labour in 6 instances, in which the spontaneous turn backwards did *not* take place.

No.	Duration of Labour.	Sex of the Infant.	Number of Children.	Age of Patient.
1	Eight hours.	Female.	Second.	23 Years.
2	Ditto.	Male.	First.	19 ditto.
3	Five hours.	Female.	Fourth.	28 ditto.
4	Two hours.	Ditto.	Fifth.	30 ditto.
5	Ditto.	Ditto.	Second.	25 ditto.
6	Two and a half hours.	Ditto.	Tenth.	26 ditto.

I have selected other 12 cases from Dr Collins' *Practical Observations*, which I have arranged as follows:—

No.	Duration of Labour.	Sex of the Infant.	Number of Children.	Age of Patient.
1	Four hours.	Female.	Tenth.	35 Years.
2	Ditto.	Male.	Seventh.	23 ditto.
3	Sixteen ditto.	Ditto.	First.	20 ditto.
4	Eight ditto.	Female.	Third.	26 ditto.
5	Seven ditto.	Male.	Ditto.	28 ditto.
6	Four ditto.	Female.	Second.	30 ditto.
7	Five ditto.	Ditto.	First.	30 ditto.
8	One ditto.	Male.	Third.	23 ditto.
9	Twenty-one ditto.	Female.	First.	30 ditto.
10	Forty-nine ditto.	Male.	Second.	28 ditto.
11	Forty ditto.	Female.	Fourth.	27 ditto.
12	Eight ditto.	Male.	Third.	30 ditto.

Three of the above cases, it will be observed, exceeded twenty hours, but it would appear their tediousness depended less upon the position of the child than the greatly defective dimensions of the pelvis, " all the patient's previous children were still born."

The five cases referred to as having occurred in my own practice where the forehead was expelled in the direction I have been describing, viz. towards the pelvis, are particularized in the following table.

No.	Duration of Labour.	Sex of the Infant.	Number of Children.	Age of the Patient.
1	Eighteen hours.	Male.	First.	23 Years.
2	Eight ditto.	Female.	Fourth.	30 ditto.
3	Seven ditto.	Male.	Fifth.	34 ditto.
4	Six ditto.	Male.	Fourth.	30 ditto.
5	Four ditto.	Male.	Third.	33 ditto.

The pelves in all these cases were of unusually large dimensions, and in four of them the previous labours had been very rapid. In the case No. 4, I proceeded to turn the forehead towards the nearest sacro-iliac synchondrosis, and this I accomplished with greater ease than I had anticipated, by simply pressing with two fingers against the left temple of the descending head. The result notwithstanding was unsatisfactory; for although I endeavoured to maintain the head in the position to which I had directed it, every succeeding contraction of the uterus forced it again into its original position. Two succeeding attempts were attended with similar results. The head was ultimately expelled with the forehead in advance. The only way in which I can account for this circumstance, is by supposing the uterus to have been in close contact with the child's body, owing to the escape of the liquor amnii, and by the fact of the pelvis having been of ample dimensions, consequently, when the head became engaged in the pelvic cavity in the right oblique diameter, the shoulder necessarily entered the brim in the left, and when the former became changed by my efforts to an opposite diameter, the latter, from being firmly grasped by the passively contracted uterus, could not undergo a corresponding change, and the result was that the head, meeting no obstacle to its movements in a capacious pelvis, and having a bias to return to its original position from the artificial twisting of the neck, readily did so on the re-occurrence of uterine action. Be this as it may, my want of success in this case, coupled with the facts that the labour did not become lingering in any of the other seven cases, and that it exceeded 20 hours in only three of the remaining thirty which I have collected, makes me feel warranted in concluding that cases of left fronto-cotyloid presentations are more likely to terminate favourably when left to the unaided operations of nature, than when interfered with. Indeed, I am firmly persuaded that, if the pelvis be of normal dimensions, the spontaneous rotation described by Nægelé will take place, and that it is chiefly, if not only when the pelvis is of large size, that such evolution is not effected.

It is certainly true, that, in the latter instances, the labour appears to be somewhat longer, and the patient's sufferings are, in all probability, slightly aggravated, but as Nægelé has justly observed, "if we admit, for which I think I have adduced sufficient grounds, that proportionate difficulties, according to the constitution of each individual, and an effort of strength, (requisite in child-birth) are inseparable from the nature of this process, we must conclude that its abbreviation, though performed by an able hand, before the salutary change on which the preservation of health depends has taken place in the organization of the mother—that a premature and sudden removal of these difficulties cannot be a matter of indifference—that such a violent interference with the functions of nature must incur the risk of destroying the health, although such an event should not ensue for some months afterwards."

The next description of head presentation to which I would direct attention, is that of the face, and of this I have but one example to offer. The labour in this case was terminated by the efforts of nature alone, in five and a-half hours. The right cheek was towards the pubic arch. The face was much swollen, but the child was alive, and no untoward symptom occurred to the mother.

As in cranial presentations, so in facial, their sub-divisions have been multiplied up to the number of six, but the best practical authorities now limit them to two, and they farther agree in believing that the chin in every instance turns under the pelvic arch. Smellie, who entertained a different opinion, has given an illustration in his plates of a presentation in which the summit of the head is directed to the pubis, and the chin to the sacrum, but such a position in the case of a child at the full period, is physically impossible—this will be evident to any one who reflects upon the measurements of the fœtal head and thorax, in contrast with the sacro-pubic diameter of the maternal pelvis. The practice of former times in face presentation, (where the practitioner was anxious to remedy the mal-position by what in our day would be considered mal-practice) furnished an amount of mortality which sufficiently establishes the superiority of the present mode of non-interference, unless the contrary be indicated by the supervention of some urgent symptom. The following notes, extracted from a table furnished by Professor Bang, are very instructive upon this point.

In three cases in which the operation of turning was performed, the children were born dead!

In four cases where the operation of turning was unsuccessfully attempted, the children were ultimately expelled by the efforts of nature, dead!

In one case the forceps was used about twenty-four hours after the commencement of labour, and the child extracted dead!

In two cases left entirely to nature, the children were born alive!!!

Dr Collins has given us the details of thirty-three cases, in every one of which the delivery was effected without any extraordinary assistance. In thirty-one of these the labour was not prolonged beyond twelve hours; in one it extended to twenty-four hours, and in the remaining one to thirty-six. Indeed, so little does this kind of presentation appear to prolong the labour, that Dr Collins is disposed to think that in his practice "some cases of face presentations were not noted, delivery having taken place so very speedily as to excite little attention." From the statistics and reasoning of Dr Collins, and from the shortness of the labour, and the favourable result in my own case, I am disposed to think, with Dr Murphy, that "such presentations usually occur in cases where the pelves are sufficiently wide for their expulsion, and although exceptions may and do occasionally occur in which assistance is required, yet they are extremely rare."

OF DIFFICULT LABOURS.

Under this head I mean to allude to fifteen cases in which the head presented, but in which, from various causes, it was deemed advisable to expedite the delivery by means of the forceps, vectis, or crotchet. Of the value of these potent auxiliaries in protracted and difficult labours when properly applied, and the dangers arising from their unskilful and uncalled-for use, the few cases I am about to narrate, afford some practical and I cannot but think instructive illustrations. I have arranged them in a tabular form, in order to render their distinguishing features more easily recognized.

No.	Age.	Frequency.	Sex.	Duration of Labour.	Instruments.	Result to Child.	Result to Mother.
1	19	First.	Male.	Twenty hours.	Forceps.	Alive.	Recovered.
2	21	Ditto.	Female.	Thirty-four ditto.	Ditto.	Dead.	Died.
3	21	Ditto.	Male.	Twenty-eight ditto.	Ditto.	Alive.	Recovered.
4	21	Ditto.	Female.	Twenty-five ditto.	Lever.	Ditto.	Ditto.
5	22	Ditto.	Ditto.	Forty ditto.	Forceps.	Dead.	Ditto.
6	23	Second.	Ditto.	Fourteen ditto.	Ditto.	Alive.	Ditto.
7	26	Third.	Male.	Thirty ditto.	Ditto.	Ditto.	Ditto.
8	26	First.	Female.	Twenty-six ditto.	Ditto.	Ditto.	Ditto.
9	27	Third.	Ditto.	Twenty ditto.	Ditto.	Ditto.	Ditto.
10	29	Ditto.	Male.	Twenty-six ditto.	Ditto.	Ditto.	Ditto.
11	30	Second.	Ditto.	Twelve ditto.	Ditto.	Dead.	Ditto.
12	36	First.	Ditto.	Thirty-six ditto.	Crotchet.	Ditto.	Ditto.
13	36	Ditto.	Ditto.	Thirty-eight ditto.	Forceps.	Ditto.	Ditto.
14	40	Ditto.	Female.	Twenty-nine ditto.	Ditto.	Alive.	Ditto.
15	40	Eighth.	Ditto.	Thirty-two ditto.	Ditto.	Ditto.	Ditto.

I consider it one of the most difficult questions in the obstetric art, to determine with accuracy the exact time at which the use of instruments should be resorted to. I am free to confess, that I am any thing but decided upon this point, and have often experienced the futility of art-drawn rules in dealing with the functions and operations of nature. It is not very long since I sent for my forceps, with the view of using them in the case of a patient on whom I was attending, and who had all the usual symptoms demanding their employment; but before they were brought to me, the labour had taken a favourable turn, and nature had happily accomplished the work intended for them. If it be any extenuation of my apparent precipitancy in this case, I would submit that I am not of those who advocate great delay before resorting to instrumental aid, being long persuaded in my own mind, that the lamentable consequences which often follow the use of instruments, are attributable as much to the unjustifiable delay which often precedes their adoption, as to the want of tact in using them. That evils do however follow their premature and improper employment, cannot be denied; and of this, the case No. 2 in the table, detailed at full length in the appendix, (see Case 1), affords a striking and painfully instructive proof.

Those who are familiar with obstetric practice do not require to be told, that the first stage of a primary labour usually occupies from eight to ten hours, and that unless from very urgent reasons, the organs and parts engaged in the parturient process should not be interfered with. This, of course, will not preclude the adoption of venesection, the exhibition of enemata, and the employment of such other general measures as are indicated by the supervention of new or anomalous symptoms. No such general measures had been resorted to in the case in question, nor was the use of instruments either justifiable or necessary when they were first had recourse to; and to this grand error I attribute the appalling catastrophe it has been my painful duty to describe. It would be out of place here to quote the experience and opinions of practical authors upon the use and abuse of instruments, or the cautious rules laid down by them for regulating their application. It may suffice to repeat, that in the case referred to, there existed no one symptom to justify their employment, nor did the *manner* in which they were employed betray less ignorance and want of tact, than the blundering precipitancy which dictated their adoption. *Arte non vi*, is the accoucheur's motto. "These words," says Dr Blundell, "should be engraved on one blade of the forceps, and *cave perineo* on the other. By art, gentleness, patience, and insinuation, if I may use such an expression, are dangerous and apparently hopeless cases often brought to a happy termination." "By force," the same author adds, "you exhaust the uterus, suspend labour, lacerate the soft parts, bruise the nerves, destroy the child, kill the patient." Apropos to the preceding remarks, I may state, that in the case considered, the operator, in endeavouring to overcome the difficulty which he experienced in locking the blades of the forceps, tied a towel round their handles, for the twofold purpose of forcing and binding them in apposition, and of giving greater power in wielding them. Failure in effecting the necessary locking of the instruments led to no abandonment of exertion; but, as may readily be imagined, every effort at extraction under such circumstances was futile, except in so far as it prejudiced the safety and aggravated the sufferings of the fated mother and her unborn child. That the failure arose from no lack of perseverance and force, was abundantly evident; and the ease with which the forceps was subsequently applied, and the delivery accomplished, by another practitioner, proved, if proofs were wanting, the lamentable deficiency of practical judgment and surgical tact which had previously been brought to bear on the case. In now dismissing it, I would briefly revert to the anxious *surveillance* which should be instituted over a patient after the use of instruments, and to the necessity that exists of carefully watching the effects of blood-letting. In the instance I have been descanting upon, the patient was left without attendance for a period of more than seven hours after an unavailing trial of the forceps, and again for upwards of three hours after venesection. Soon after the latter operation, as generally happens, the parts became relaxed—the pains quickened—and if the patient, who was dispirited, and surrounded by strangers, had had her medical attendant beside her, to encourage and assist, it is not unreasonable to suppose that the delivery might have been accomplished by the natural efforts. Unfortunately there were none present to sympathise with her, or afford relief, until encouragement was of no avail, and until the use of instruments, from neglect and previous mal-practice, became absolutely necessary.

I will now proceed to direct attention for a few minutes to the case, No. 11 in my table, from which it will be seen, that I found it advisable, in this instance, to apply the forceps twelve hours after the commencement of the labour. To those who measure the stages and process of labour cases with clock-like precision, this apparent precipitancy on my part requires some little explanation. This will be found in the narrative of the case, No. 2 in the appendix. I deem it only necessary to state here, that this case alone appears to me quite sufficient to prove, that there are more circumstances to be considered in regulating the period and propriety of instrumental interference, than the mere time which a labour has occupied.

In Case No. 6, in my table, the forceps was applied after the labour had continued fourteen hours, not as in the preceding instance, from defective, but from over-powerful uterine action. This may appear somewhat paradoxical, but it is no less a fact. The vagina of the patient was discovered to be constricted by indurated and unyielding cicatrices, the consequence of a previous labour; and although these were cautiously and freely incised, they nevertheless continued to oppose such resistance to the advance of the head, that I became alarmed lest the uterus would give way, and therefore adopted the practice described in the history of the case in appendix, No. 3.

No. 4, in the table, was a case somewhat similar to the last described. Blood-letting was employed, and the delivery was ultimately effected by means of the lever, without the aid of any cutting instrument. The particulars of this case will be found in the appendix, No. 4.

I have narrated the case marked No. 14 in the table, and No. 5. in the appendix, in order to demonstrate the ease with which I applied and locked Mr Zeigler's forceps, after having failed with Dr Hamilton's. I state this fact, the more readily from having at one time entertained and expressed strong prejudices against their use. I am now, however, of opinion, that many cases occur in which they can be applied much more easily than any other kind of forceps with which I am acquainted, and with fully as much safety.

Having thus glanced at the most prominent and interesting features of five of my instrumental cases, and having nothing novel to relate in any of the circumstances attending the others, I will pass them over in very few words. The use of instruments was indicated in most of them by the suspension or inefficiency of the uterine action, combined in two instances with an unyielding rigidity of the soft parts. In another two instances there was, as I supposed, a strictured condition of the uterus. In Case No. 13 of the table, the crotchet was reluctantly used after many attempts to deliver with the forceps had failed, and after the stethoscope and other means had sufficiently indicated the death of the child. The pelvis in this case was unusually small, and the cranium of the fœtus large, and prematurely ossified. Other particulars will be found in the appendix, Case 6.

PRETERNATURAL LABOURS.

In this division of labours, I have included those cases of plural births, in which the presentation in one or both children was other than natural. The most usual preternatural presentation is that of the breech, and of it I find 16 cases in my list. Seven of these occurred in cases of plural births. Four of the children were still-born,—two being putrid, and two having died apparently from obstruction to the circulation through the cord. The head of one of the latter remained so long wedged in the pelvis, that the crotchet required to be used before extraction could be accomplished.

The mortality in my cases (viz., 1 in 4) is certainly great, but not more so than what usually happens under similar circumstances in the practice of others; for of 598 breech cases collected by Dr Churchill, 177 were still-born, or about 1 in 3⅓.

The principal practical point involved in the consideration of these cases, is the question of the proper practice when, as sometimes happens, the child's back is directed to the spine of the mother. When this occurs, we are advised by Denman, Hamilton, and some other equally eminent authorities, to turn the child's body round, so that the face may come to lodge in the hollow of the sacrum. Dr Collins observes in reference to this practice, that " it is very desirable the child should be born in this position, as it renders the abstraction of the head much less difficult. Yet where there has been no interference in the previous part of the labour, there will rarely be any necessity for attempting to alter the child's position, as the breech naturally makes the turn alluded to in its descent." This opinion has been corroborated by the experience of Nægelé, Rigby, and other equally competent observers. Relying upon its accuracy, I left nature in two recent instances to effect the desired evolution, and was not disappointed. One of these was a version case, in which, with mal-adroitness, I had brought down the feet with the toes pointing to the pubis.

It is a pretty generally received opinion now, that little or no assistance should be rendered in breech cases, until the child has protruded as far as the shoulders, and in this opinion I cordially agree, for, by adopting the practice recommended, the maternal passages are more effectually dilated, and the subsequent passage of the child's head through them greatly facilitated. I need scarcely add, that the adoption of this practice does not preclude the usual and necessary assistance of bringing down the arms, slackening the cord, pressing the chin down to the coccyx, and extracting the head as soon as is consistent with the safety of the mother and child. When the natural efforts, with the assistance referred to, fail in accomplishing the deliverance of the head, the forceps have been recommended, but they should only be used provided there be pulsation in the cord, if not, the perforator is the preferable instrument. I have not been afforded an opportunity of using the forceps in such cases, and have used the perforator and crotchet but once. In this instance the labour was a very lingering one—its progress was not interfered with until after the expulsion of the breech and legs, the arms were then brought down, but from the smallness of the outlet of the pelvis, and the magnitude of the child's head, the latter continued firmly impacted, notwithstanding my most strenuous endeavours to remove it. Under these circumstances, being satisfied that the child was dead, and having no forceps at hand, I sent for and used the perforator. The mother did well.

The practice in breech and footling cases being similar, leaves little room for remarks regarding the latter. Only two of my cases were of this description. Both children were dead, one was putrid, and the other was lost evidently from the compression of the cord. I find, on looking at Dr Collins' reports, that out of 62 still-born children presenting by the feet, 41 were putrid. This fact, taken in connection with circumstances coming within the range of my own knowledge in preternatural cases generally, has impressed me with the opinion, that putrid children are very apt to present in a wrong position. Dr Collins remarks, that an attentive perusal of the cases recorded by him, " will clearly show, that the very great mortality in footling cases is comparatively little, owing to any difficulty experienced in the actual delivery of the child, but must be referred to causes operating previous to the setting in of labour." He then goes on to prove this, by referring to the number of children born putrid and prematurely, and finally hazards an hypothesis, by asking whether the position of the child in such cases has any share in causing so very large a number to be born prematurely, or in producing the child's death some time previous to labour, so as to account for the putrid condition, in which it is so frequently found.

The next variety of preternatural labour to which I will refer, is that in which the superior extremities present. Of such cases, I have had seven. Operative interference was called for in every one of them. Two of the children were born alive; two died from interrupted circulation; two were putrid, and one required evisceration before it could be removed. The mothers in all the cases had a good recovery.

That the child may be born without assistance, even in this dangerous and abnormal position, was first taught by Dr Denman, and afterwards by Drs Douglas, Gooch, and many others. The former called the process by which nature effected this object, "spontaneous evolution," evidently from a mistaken idea of its mechanism, but the second, who observed the mode of extrusion more accurately, termed it "spontaneous expulsion." Dr Denman thought that the arm was retracted into the pelvis, and that the breech took its place. Dr Douglas has, however, satisfactorily shown that the arm is not retracted at all, but is, on the contrary, protruded as far as it possibly can be. Although I have never myself observed the process exactly as described by him, yet I once met with a case which, if I had been unacquainted with his observations, would have sufficiently satisfied me of their correctness. In the case I refer to, the labour was somewhat premature, the liquor amnii had escaped, and I could not reach the feet. Nevertheless, by my efforts, the breech was brought down into the pelvis, and was ultimately expelled, although the arm had never been retracted. (Appendix, Case 7.)

In contrast with the successful issue of the preceding case, I will briefly revert to one of a similar nature, but in which the results was by no means so satisfactory. The liquor amnii, in this instance, had been also prematurely evacuated, and the arm was discovered protruding through the os externum. I administered a large opiate, and tried to turn, but failed. An experienced medical friend was called in at this juncture, who was equally unsuccessful in his endeavours. We therefore, being fully satisfied of the child's death, had recourse to the operation of evisceration, and completed the delivery by means of the crotchet.

Although the first of these two cases shows that the child may be born in the doubled-up manner described by Dr Douglas, yet the second one equally proves the folly of relying exclusively upon the supervention of such an occurrence. The only way, therefore, of avoiding the desperate alternative of evisceration, is to perform the operation of turning, as early as it can with propriety be done, and before the liquor amnii has escaped. This I succeeded in accomplishing in all my other cases.

ANOMALOUS OR COMPLEX LABOURS.

The first order of this class includes those labours which are attended with hemorrhage. In the few observations I have to make in reference to this order, I do not mean to include any case which occurred before the completion of the seventh month of pregnancy. The number of hemorrhage cases on my list, within the range of these limits, is thirteen; of these, five were unavoidable, three were accidental, and five supervened upon the expulsion of the placenta. In the unavoidable instances, four of the children were still-born, and one of the mothers died; in the accidental cases, one child was still-born, and all the mothers recovered, and in the cases where the hemorrhage followed the removal of the placenta, one child was born dead, owing to the previous severity of the labour, but all the mothers did well. In four of the five unavoidable cases, the presentation of the placenta was of a complete, and in the remaining one, of a partial description. In the latter hemorrhage occurred twice during the last two months of pregnancy. At the commencement of the labour the membranes were ruptured, which measure had the effect of checking the flooding then going on. The child was born alive, (Appendix, Case 8). In another case, hemorrhage occurred twice during the last six weeks of pregnancy. The placenta adhered round the os uteri. I cautiously insinuated my hand past its margin, and brought down the feet of the infant, which was dead, but the mother recovered, (Appendix, Case 9). In the third case, hemorrhage, attended by uterine action, came on at the seventh month, and as the os uteri was not sufficiently pervious for the introduction of the hand, the plug was used. In less than an hour I was enabled to turn the child, but not until I had been obliged to break up the structure of the placenta. The child was dead, and the mother made a slow recovery, (Appendix, Case 10). In the fourth case, flooding occurred two or three times during the latter months of pregnancy. This patient was attended by other practitioners, and I did not see her until six and a half hours after the commencement of labour. The quantity of blood lost during this interval was enormous. In addition to a complete placental presentation, I found the pelvis partially deformed, and the child presenting transversely. The case at this juncture was altogether hopeless, and the patient sunk during the operation of turning. The head of the infant required the aid of the perforator and blunt hook for its extraction, (Appendix, Case 11). In the fifth and last of these placental cases, flooding, accompanied by labour pains, took place at the expiry of the seventh month of pregnancy. On my first examination I found the placenta almost entirely protruded through the os externum, and the child born as far as the breech, (it was a footling case). The infant, according to expectation, was dead, but the mother got rapidly better, (Appendix, Case 12.)

The details of the preceding cases, as contained in the Appendix, sufficiently illustrate the practice that should, in my humble opinion, be adopted, when hemorrhage takes place under the circumstances described, viz., 1st, When the placenta presents partially, to try what effect rupture of the membranes will have upon the flooding; 2d, When the presentation is complete, to insinuate the hand, if practicable, through the os uteri past the least adhering margin of the placenta to the membranes, to rupture them, and before withdrawing the hand, to turn the child and bring down the feet; and, 3d, If the os uteri be too rigid and unyielding, to plug the vagina until the mouth of the womb becomes sufficiently dilated or dilatable for the introduction of the hand. Certain objections have been made to some of these rules, and other modes of practice recommended in their stead. It has been argued, for example, that the insinuation of the hand past the placenta will expose many additional vascular openings, and thereby increase the hemorrhage, and that consequently it would be better to perforate this organ at once. To this it may be answered, that the hand and arm of the operator must act as an effectual plug in arresting the flow of blood from the open mouths of any vessels in contact with them; secondly, that the attempt to perforate the tough placenta according to the above recommendation must infallibly separate its attachment to the uterus to a much greater extent than the practice I have advised; and further, that the passage of the fœtus through this lacerated organ must break it up still farther, and in all probability cause a complete detachment, and thus, by draining the blood directly from the fœtal vessels, place the existence of the child in the most imminent jeopardy. The practice of plugging the vagina, when the uterine orifice is too small and too rigid for the admission of the hand, has been condemned, inasmuch as it might convert what was before an obvious into a hidden danger, for it is argued, that when the flow of blood is checked outwardly, it will accumulate in the interior of the distensible uterus, and thereby render the mouths of the uterine vessels more patent, and favour the farther loss of the vital fluid. However well this reasoning may apply to cases of accidental hemorrhage, occurring at an advanced period of gestation, it cannot with equal consistency be used in the cases I have been considering, for, from the position of the placenta, blood could with difficulty get into the interior of the uterus, and if the plugging be properly accomplished, it could not get vent in any other direction.

OF ACCIDENTAL HEMORRHAGE.

There are three cases noted. In one the child was still-born, (Appendix, Case 7,) the patient in this case had flooded between the sixth and seventh months of pregnancy, and again between the seventh and eighth. On the latter occasion operative aid was afforded in the manner described in the Appendix. On examining the placenta after its expulsion, a cavity about an inch in depth and three and a-half inches in diameter was observed in its uterine surface. It was filled by a fibrinous clot, similar to what is sometimes seen in the ventricles of the heart. The structure of the placenta at this point was very firm and altogether devoid of its usual spungy feel. This appearance was evidently caused by one of the first attacks of hemorrhage, for then the mass had undoubtedly been separated from the uterus, and coagula had lodged between the two, producing the cup-like depression and alteration of texture just described. Cases of this kind have been described by authors wherein the flow of blood between the placenta and uterus has been so great as to cause the death of the patient.

In the two other cases of accidental hemorrhage I have alluded to, I ruptured the membranes, which led to an almost entire cessation of the flooding. The mothers in all the three cases did well.

OF HEMORRHAGE SUBSEQUENT TO THE BIRTH OF THE CHILD.

I have had five cases of this kind, three from atony of the uterus, and two from, as I believe, laceration of the mouth of that organ. In all these cases the mothers had a favourable recovery. In the three first pressure, the application of cold, the introduction of the hand into the uterus, and the exhibition of ergot, were severally had recourse to. In one instance I had reason to doubt the propriety of interfering with the coagula that formed internally. Every time I did so the hemorrhage became alarmingly increased, and produced a decided impression upon the pulse, I therefore trusted to the ergot, to the cold dash, and above all to the powerful and long continued pressure with the hand over the hypogastric region, and these measures led ultimately to the permanent contraction of the uterus and consequent expulsion of the coagula. I should have stated before that, from the well-known circumstance of after-pains being produced or increased by the first application of the child to the breast, this proceeding was adopted in the above cases, but without any appreciable result following; this, however, might be owing, in some degree, to the inefficient manner in which the experiment was made, in consequence of the difficulty from the presence of other alarming symptoms of continuing it sufficiently long.

The two other cases of hemorrhage after delivery, arising as I have already stated from laceration of the os uteri, are rather interesting. This accident was distinctly ascertained to have taken place in both of them during the passage of the child's head. After the delivery of my patients, I had left them apparently doing well, but was hurriedly recalled in both instances within an hour afterwards, when I found them in an alarming condition from loss of blood. It had been oozing gradually away from the time I had left. There was no lack of uterine contraction. Cold applications sufficed in one case, but in the other I was forced to use styptic injections *per vaginam* before I succeeded in arresting the discharge.

RETAINED PLACENTA.

Retention of the placenta happened in four cases; in two from defective action, and in other two from irregular contraction of the uterus. The only question I mean to notice in connection with these cases, relates to the possibility of *genuine* "hour-glass contraction." Dr Campbell of Edinburgh, (no mean authority) denies that any such contraction occurs, and maintains that practitioners have deceived themselves, by mistaking the contraction of the os and cervix for that of the body of the uterus. Many distinguished accoucheurs entertain a like opinion. At one time I was disposed to adopt the same view myself, but the occurrence of the case I am about to notice tended to convert me. In this case ergot had been administered during the progress of the labour, a circumstance which I deem worthy of notice. In consequence of the subsequent retention of the placenta, I introduced my hand into the vagina, and insinuated it through a strictured portion, which I have no doubt was in the cervix uteri; on advancing still further, I encountered *another* stricture which must have been in the body of the organ: A considerable portion of the placenta lay beyond this, and was in part firmly grasped and retained by it. This case, and the respect I cannot but entertain for so many observant and eminent men, who maintain that they met with the occurrence even after their eyes were opened to every source of fallacy, have inclined me to believe, that such contraction does occasionally take place, although perhaps with less frequency than has been generally stated.

PUERPERAL CONVULSIONS.

I have met with five cases of puerperal convulsions, two of these were of a hysteric, one of an anæmic, and two of what has been termed an epileptic character. In one of the hysteric and one of the epileptic cases, the fits accompanied the labour, in the remaining three they succeeded it. The forceps was required in the labour accompanied by the epileptic convulsions. The child was still-born. The children in all the other cases were alive, and the mothers recovered. The cases of hysteric convulsions were characterised by the ordinary symptoms of such affections, and were subdued by the treatment usually resorted to for their removal. (Appendix, Cases 13 and 14.) The case of anæmic convulsions was occasioned by profuse uterine hemorrhage succeeding delivery. Warm applications were applied to the feet, cold to the head: an enema was thrown up the rectum, and camphor administered by the mouth. These means prevented a recurrence of the fits. (Appendix, Case 15.) The other two cases, which are also related in the Appendix, (Cases 16 and 17,) are of greater interest than the preceding, being of that peculiar character which is regarded by some authors as the only genuine kind of puerperal convulsions. That such is the variety most generally met with during and after labour, I freely admit, but that it should be almost the only one dwelt upon by some obstetric writers is much to be regretted, for the depletory treatment which they so strenuously advocate, if followed in the other varieties, would certainly lead to incalculable mischief. It is no doubt true, that a mistake of this kind is not likely to happen in the practice of those who are experienced and sufficiently conversant with such accidents, but the inexperienced and less considerate are apt to be misled by a name, and consequently induced to treat all cases of puerperal convulsions alike.

The proximate cause of the form of convulsions I am now considering, is almost unanimously referred to cerebral congestion and its occasional effects, such as rupture of vessels, effusion of serum, and so forth; but the same unanimity of opinion by no means obtains regarding the remote cause. There are many who from having observed a great number of cases occurring at the same time, think that the atmosphere has something to do with it; others refer it to irritation of the brain from sympathy with a disordered stomach, or an over-distended uterus, and others, again, to an unhealthy condition of the kidneys, producing an injurious effect upon the cerebral functions. It is not my intention to add to these causes, but in reference to the last-mentioned, I cannot help regarding it as more than a simple coincidence that Dr Lever should in nine cases out of ten have observed the urine to be highly albuminous. That there was no *morbus Brightii* present was satisfactorily proved by the traces of albumen becoming daily less marked, until they entirely disappeared.

There might be many objections offered to the speculations put forth in Dr Lever's valuable paper, but if future experience should demonstrate that the albuminous condition of the urine observed by him in puerperal convulsions is not an occasional but an invariable occurrence, we must be forced to the conclusion that the relation between them is something more than accidental.

All authors of the present day agree in the propriety of treating epileptic puerperal convulsions by depleting means, and the great success attending the practice is sufficient evidence of its efficacy. There are other remedial adjuvants recommended by high authorities, which, as they do not exclude the use of the lancet, are entitled to some consideration. The late Professor Hamilton has extolled the use of camphor, which in his hands, he says, never failed to produce beneficial results. Dr Collins is equally partial to the exhibition of tartar emetic, and thinks opium, either alone or in combination, of signal benefit. I will only observe, in reference to these remedies, that tartar emetic is the only one which appears in the hands of others to have effected what its proposer says of it—camphor has proved utterly useless, and opium, in the great majority of cases, positively injurious.

The propriety of artificial delivery, when the labour is complicated with convulsions, remains yet to be considered, and upon this subject my own opinion is, that dilatation of the os uteri should not be attempted for the purpose of turning, and that except in cases of extreme urgency, this operation should not be had recourse o at all. It is much better, I think, to wait until the head comes down sufficiently low to be grasped by the forceps, when delivery may, and should be effected.

RUPTURE OF THE UTERUS.

Of this formidable accident only one case has occurred in my own practice,—I say in my own practice, for the late Mr Allan Burns and I were called upon to inspect the body of a woman who had died from this cause, but as we could not get a satisfactory account of the symptoms, I am precluded from entering upon the partial particulars which I possess.

In the case which I attended myself, the patient said she had felt something giving way in her side, whilst exerting herself lifting water from a draw-well; this was followed by feeble uterine contractions, which continued until the head had descended into the pelvis, when they went off. I then employed the forceps, and extracted a dead child. The mother survived only fourteen hours afterwards, (Appendix, Case 18.) The rent in the uterus did not extend through the entire coats, but was confined to the muscular substance, which had given way in a somewhat transverse direction, mmediately above the cervix. The circumstances in this case, most worthy of notice are, 1st, That the accident took place before the commencement of uterine action; 2d, That this action, although feeble, was not prevented by the occurrence; and, 3d, That the rupture did not affect the peritoneal tunic of the uterus. It certainly appears singular that an incomplete laceration should give rise to the same symptoms, and be attended by the same fatal results as when the rupture has been complete, yet that such is the case has been fully established by experience, and a numerous array of well authenticated cases.

FUNIS PRESENTATIONS.

Two cases of this kind occurred. In one I satisfied myself by the stethoscope and the absence of pulsation in the cord, that the child was dead, and therefore did not interfere. The child when born proved to be putrid. In the other case, a practitioner who had been previously in attendance, told me that on discovering the pro-apsed funis he had endeavoured to turn, but unfortunately had brought down a hand instead of a foot. I found the cord protrud-ng and pulsating, and the arm completely prolapsed. I succeeded n turning the child with some difficulty, but from the time taken n the extraction of the head, it was still born. The mother did well. The funis in this case was by no means of unusual length, but the placenta was of that shape termed *battledore*. Whether this circumstance, taken in conjunction with the probability of the organ being situated lower than usual, occasioned the prolapsus of the funis, can only be matter for conjecture, yet the theory is somewhat plausible.

It will be seen that, in the two cases just mentioned, I had no reasonable alternative left me for acting otherwise than I did; for in the one, the child was dead; and in the other, the accompanying prolapsus of the arm rendered the operation of version imperative. Many modes of practice have been recommended in cases of the kind under consideration, but my limits will only permit me to mention one, which I consider not only novel and ingenious, but promising and practicable. It consists in returning the funis into the uterus by means of a firm elastic catheter, and keeping it there until the uterus has so far contracted as to prevent the re-occurrence of the prolapsus. This expedient was recommended by Dr Michaelis of Kiel, and it proved successful in his hands. "It is effected by passing a silk ligature, doubled along a thick elastic catheter, from 12 to 16 inches in length, so that the loops may pass out at the upper extremity. The catheter is introduced into the vagina, and the ligature passed through the coil of umbilical cord, and again brought down to the os externum. A stilet with a wooden handle is introduced, and its point passed out at its upper orifice, and the loop of the ligature hung upon it; it is thus drawn back into the catheter, and pushed up to the end, after which the operator has but to pull down the ends of the ligature, passing the catheter up to the cord, which now becomes securely fixed to its extremity. When the re-introduction of the umbilical loop has been effected, it only remains to withdraw the stilet, when the cord is instantly disengaged."

PLURAL BIRTHS.

I will enter into no practical details upon this head, but content myself with simply stating, that there are ten cases of twins upon my list, and one of triplets. In six of the former, one child presented by the head, and the other by the breech; in three, both children presented by the head; and in the remaining one, the head of one child presented, and the arm of the other. The number of still-born children was three. Two of these presented by the nates, and one by the arm. One of the mothers was seized with puerperal fever, of which she died. In the case of triplets, labour came on at the seventh month. Two of the children presented by the head, and one by the breech. They were all still-born. The mother recovered well.

Having thus given a list of, and a running commentary upon my midwifery cases, I will conclude by throwing the whole together in a tabular form, for the convenience of more direct reference.

628 labours produced 640 children.

The exact position was not ascertained in all the cases of head presentations; but of 301 noted with care, 291 were left occipito-cotyloid, 8 left fronto-cotyloid, one a right occipito-cotyloid, and one a face presentation.

16 cases were breech presentations.
2 do. feet do.
7 do. arm do.
2 do. funis do.
5 do. placenta do.

10 do. twins.
1 case was triplets.

14 cases required the use of the forceps or vectis.
In 1 case in consequence of convulsions.
In 1 do. rupture of the uterus.
In 4 do. disproportion between the head and pelvis.
In 4 do. the absence of uterine action.
In 2 do. stricture of the uterus.
In 2 do. cicatrices in the vagina.

4 cases required the use of the perforator and crotchet.
In 1 from premature ossification of the head, and impaction of it in the pelvis.
In 2 from retention of the head in a small pelvis, after the delivery of the body.
In 1 from a transverse presentation. (Turning could not in this case be accomplished.)

9 cases required turning.
In 5 in consequence of arm presentation.
In 3 do. placenta do.
In 1 do. funis do.

1 case required the vaginal cæsarean section from cicatrices.

Of the 640 children born, 27 were dead—10 were putrid or premature, and 17 seemed to have died from causes connected with the labour. Of the putrid or premature children,
3 presented by the head.
2 do. breech.
2 do. arm.
1 do. feet.
1 do. funis.
1 had the placenta presenting before it.

Of the children which seemed to have died from causes connected with the labour,

6 presented by the head. The forceps was used in four of these cases, and the perforator in another.

3 presented by the breech. The perforator was used in one of them.

3 presented by the arm. (Evisceration was required in one of them.)
1 presented by the feet.
1 do. funis.
3 had the placenta presenting before them.

18 of the children born alive were the subjects of the following accidents or diseases.

1 had fractured limbs.
4 ... syphilitic eruptions.
3 ... encephalematomatous tumours.
3 ... congenital inguinal hernia.
4 ... umbilical hernia.
1 ... double hare-lip and cleft palate.
2 ... talipes varus.

5 mothers died from the following causes.

1 from unavoidable hemorrhage.
1 ... ruptured uterus.
1 ... puerperal fever.
1 ... the prevalent epidemic fever.
1 ... phthisis.

25 of the mothers had the following diseases and accidents, but recovered from them.

4 had unavoidable hemorrhage.
3 ... accidental do.
5 ... alarming do. after delivery.
3 ... convulsions before and during labour.
2 ... do. after delivery.
3 ... peritonitis.
1 ... puerperal fever.
3 ... puerperal mania.
1 ... laceration of the perineum into the rectum.

APPENDIX OF CASES.

Case 1. At five o'clock, P.M., I was called to Mrs S., aged twenty-one, well formed and healthy, in labour of her first child. The labour had progressed in the ordinary way from its commencement at 1 o'clock P.M. On examining, I found the os uteri dilated to the size of a half-crown piece, and the presentation natural. The rectum being loaded, and the pains tardy, I ordered an enema, and left her with orders to be sent for as soon as the pains became more active. At 8 P.M. I was again in attendance, and found the labour progressing steadily and favourably although slowly. A gentleman who had been previously engaged to attend the case now made his appearance, and to him I resigned the future charge of the patient. At 12 midnight I was recalled, when I learned that he had tried to apply long forceps. He had begun their use at 10 P.M., nine hours from the commencement of labour. The pains were almost suspended, the passages and external parts were dry, hot, swollen, and tender; the os uteri was fully dilated. I disapproved of the practice adopted, recommended an anodyne draught, in order to suspend entirely the ineffectual uterine contractions and procure sleep, so as to recruit the woman's strength. I also recommended oleaginous applications to the vagina, and warm fomentations to the bruised and swollen vulvæ, and suggested the propriety of v.s. on the re-occurrence of uterine action, if the passages continued dry, tender, and hot, as they then were. The two first suggestions were acted upon, and the patient obtained a refreshing sleep. Early in the morning, as I afterwards learned, uterine action re-commenced, but apparently with insufficient strength to satisfy the impatient attendant, for he administered a dose of *secale cornutum*. At seven o'clock in the evening he again sent for me, but being from home, a young medical friend supplied my place, who gave me the following particulars,—"I was told on my arrival," he writes, "that the ergot had caused a few ineffectual pains. The head of the child at this time occupied the cavity of the pelvis; the child was alive. As the patient was young, and the pulse full and strong, I advised v.s., and left. At 10 P.M. I again called at the patient's house to ascertain the progress of the case, when I was told that the gentleman in attendance had left immediately after he had performed v.s. He came in, however, just as I was inquiring after him. We were then told that the bleeding had been followed by a smart accession of pains, but that they had now totally gone off. The head of the child at this time was resting on the perinæum, the patient's pulse was small and feeble, and her spirits much depressed. There could be no difference of opinion as to the necessity of active interference now, and the attendant accordingly proceeded to apply the forceps. I trust I may be spared from ever again witnessing such another exhibition of suffering on the one hand, and harsh unscientific practice on the other. The labia and contiguous parts were literally mangled by the repeated attempts made to lock the instrument, and although this was never properly effected, traction was attempted, but the forceps always slipped, bringing away each time a portion of what was included in their blades; the perinæum was also lacerated into the rectum, and one blade of the forceps was twisted half round. In this manner did he, despite of counsel, continue to twist, and toil, and sweat over his task, while the stifled moans of the unhappy patient gave indication of her agony. At length, despairing and exhausted, he declared there was no remedy but perforation. As there now remained little doubt of the child's death, I did not object to this alternative, but while the perforator was being sent for, I obtained permission to make a cautious trial with the forceps, and in a few minutes, and with the greatest ease, I delivered the patient of the previously mangled body of a dead female child. The delivery was followed by anæmic convulsions, but not of a severe character. On the following day I met my obstetric friend, who informed me that all was going on well with our patient, and that he hoped by careful attention to see her shortly out of danger. We visited her together, when I readily discovered he had more to learn than the dexterous use of his irons, in order to discharge faithfully the onerous duties of his profession. In fact the patient was moribund, and died in a few hours afterwards."

CASE 2. *November 5*, 1841. I was called at 10 P.M. to attend Mrs B. in labour. Two years before she had had primary and secondary syphilis, contracted from her husband, and about that time miscarried betwixt the sixth and seventh month of pregnancy. I ascertained, that on the present occasion she had been in labour for three hours. The os uteri was dilated to about the size of a sixpence, and felt as hard as whip cord, the edges were corrugated with indurated folds, caused, as I judged, from cicatrices. The presentation was natural, the child was alive. At twelve o'clock, as matters were continuing much in the same state, ten ounces of blood were drawn from the arm, after which the pains became more effectual, and the os uteri dilated to its full extent, still, however, retaining its hard gristly feel. The head descended into the cavity of the pelvis, but at half-past three the pains almost entirely ceased. An enema was administered, and the bladder, which appeared distended, was emptied by means of the catheter. The head notwithstanding made no advance. At seven o'clock A.M. the parts became tender, hot, and inflamed, distressing hiccough supervened, the surface of the body was bedewed with cold perspiration, and the pulse felt small and frequent. From the inefficiency of the expelling powers, I considered that no advantage could be obtained from farther delay; the forceps were consequently applied, and the head extracted; the body was expelled by the uterine efforts. The child was dead,—the mother recovered.

Case 3. I was called to Mrs D., aged twenty-three, at 6 P.M., and learned that she had been upwards of ten hours in labour of her second child. I also learned that she had been delivered of her first child, (which was still-born,) with great difficulty, "many doctors being in attendance, and a deal of cutting required." She lay for six weeks afterwards, and the urine came away for a considerable time by several openings. Some more cutting operations, it appeared, were subsequently had recourse to to put matters to rights. On examination I found a very strong cicatrix at the fourchette, of cartilaginous hardness, another of a similar description under the pubic arch, and a third pretty far in the vagina, at the posterior part. The presentation was natural, and the pains powerful; the cicatrices, however, presented an insurmountable barrier to the progress of the labour. I accordingly used a curved probe-pointed bistoury to divide them, but from their hardness I found this instrument of little service. I then used a straight bistoury, and incised pretty freely in the direction of the acetabula and sacro-iliac synchondroses. This operation caused the loss of a considerable quantity of blood. The effect of all was that the vertex passed to a considerable extent the first obstacle, but made no impression on the second. The quantity of blood lost was such as to prevent me drawing any from the arm, I therefore, at 10 P.M., (in consequence of the violence of the pains causing me to dread rupture of the uterus or vagina) applied the forceps, and by cautiously assisting during every contraction, got the parts gradually dilated until a considerable portion of the head had passed the most external impediment, I then left the rest of the process to nature. The child was above the average size, and alive. The mother made a good recovery, and by the use of sponge pessaries dipped in oil, I contrived to leave the vaginal passage in a far less exclusive condition than when I found it.

Case 4. Mrs A., aged twenty-one, a few years before marriage had fallen from a window on some railings. One of them had penetrated the perinæum, laying the rectum and vagina into one. The process of cure was tedious. I was sent for at 9 A.M. to attend her in her first confinement, and then ascertained that she had been nine hours in labour. The finger could be inserted into the vagina with difficulty, but there was not such a hard cartilaginous feeling in the constricted portion as in the previous case. At 12 noon, as the labour was making but little progress, I abstracted blood from the arm. The os uteri after this dilated rapidly, and the head descended near to the perinæum, to the part in fact where the contraction was greatest. It remained there till 12 midnight, at which time I applied one blade of the forceps, which I used instead of the vectis, and in an hour afterwards a female child was born. The perinæum gave way to a small extent, notwithstanding which the patient made a good recovery.

Case 5. Mrs Y——, aged 40, of a corpulent habit of body, in labour with her first child. The os uteri was rigid, and dilated but slowly—blood was freely drawn from the arm, which hastened the process. After 18 hours' labour, the head in part cleared the pelvic brim, where it remained stationary for four hours—symptoms then arose demanding immediate interference. As the head was beyond the reach of the ordinary short forceps, I tried Hamilton's long pair, but failed in their application; I then tried Ziegler's, and applied them with the greatest ease. The head was brought with difficulty into the cavity of the pelvis, and the instruments were then withdrawn. After waiting two hours, and finding no advance, they were reapplied, but the force I was obliged to employ to move the head, even in the slightest degree, was so great, that had it not been for the evidence of the child's life afforded by the stethoscope, I would at

nce have had recourse to craniotomy. After an hour's persevering efforts de-
ivery was effected. The cord pulsated strongly, but artificial respiration re-
uired to be kept up for *an hour and three quarters* before the child gave a gasp,
nd another *half hour* elapsed before respiration was freely established. The
nother had afterwards a pretty smart attack of peritonitis, which was subdued
y appropriate means, and she is now in good health.

CASE 6. I was requested to see Mrs T—— in her first labour. A neigh-
ouring practitioner had already been 12 hours in attendance. The os uteri
vas fully dilated, and the membranes still unruptured: the pelvis was of rather
mall dimensions throughout. The patient complained of headache; the face
vas flushed, and the pulse full; I recommended bloodletting, which was done;
nd on my next visit, six hours afterwards, I found the head partially engaged
n the brim of the pelvis. After the lapse of another 12 hours, I was again sent
or, and then learned that the pains had been occurring regularly, but that the
ead had made no advance. There was an offensive discharge from the passages,
vhich were hot and painful; the pulse was small and rapid. I applied the long
orceps, but could make no impression on the position of the head; the instru-
nents in fact ultimately slipped with me. From the signs afforded by the
tethoscope, and otherwise, I concluded that the child was dead, and accordingly
elt no hesitation in perforating the head; but even after this operation, I ex-
erienced considerable difficulty in extracting the child, for the cranial bones
vere prematurely ossified. The mother made a good recovery.

CASE 7. I was called by another practitioner to Mrs T——, who was between
he 7th and 8th month of her third pregnancy. Hæmorrhage, followed by brisk
terine action, had come on some time prior to my arrival. My friend had de-
ected a shoulder presentation previous to the rupture of the membranes, and
ad ruptured them in a vain attempt to turn. I found the arm completely pro-
apsed, and the os uteri grasping the child's body as firmly as if bound with a
ord. I administered a large opiate, and made persevering but futile efforts to
each the feet. At length I contrived to hook two fingers round the child's
ody, between the ribs and os innominatum of the left side, and with the pur-
hase thus obtained, I brought the breech down into the pelvis, and by further
fforts, the body became so doubled upon itself, that the breech swept over the
mmensely distended perineum, and in this manner was expelled. From the
ne arm having already been protruded, I had only to hook down the other, and
erminate the case, as if it had originally been a footling one. The child was
ead, but the mother recovered well.

CASE 8. Mrs M'T— was attacked between the 7th and 8th month of her
hird pregnancy with uterine hæmorrhage; it abated under the use of cold ap-
plications, and other ordinary means, but recurred a fortnight afterwards, and
again at the full time. At this period uterine action had commenced. The
margin of the placenta was found presenting at the os uteri, which was dilated
to the size of a penny piece. The hæmorrhage was profuse; the pulse small
and quick, and the patient pallid. The membranes were ruptured, after which
the pains increased in power and frequency, and the hæmorrhage decreased;
the head of the child quickly descended into the pelvis, which was unusually
capacious, and in less than three-quarters of an hour, a large living child was
expelled. The mother recovered.

CASE 9. Mrs B— was twice seized with hæmorrhage during the last five weeks of her fifth pregnancy. On the last occasion the discharge was so profuse, that the patient fell from a chair on which she was seated in a fit of syncope so profound, that her friends thought her dead. When I saw her a few minutes afterwards, she had recovered her senses; the pulse was weak and rapid, and the countenance deadly pale; there were no pains present, and the hæmorrhage had ceased. Cordials were administered, and an examination instituted per vaginam. Whilst doing this, some coagula, which had collected in that canal, were disturbed, when the flooding immediately recommenced. The placenta adhered round the os uteri, which orifice, though little dilated, was soft and dilatable, I therefore at once, and without difficulty, insinuated my hand past the placenta, ruptured the membranes, and brought slowly down by the feet a large dead male child. The placenta was afterwards found loose in the vagina, and was removed. The mother made a very slow recovery.

Case 10. Mrs M'M—, about the seventh month of her first pregnancy, was seized with profuse uterine hæmorrhage, attended by slight parturient action. The attending practitioner detected the placenta adhering round the uterine orifice, and requested my assistance. I confirmed his diagnosis, but as the os uteri was rigid and dilated only to the size of a shilling, version was impracticable. Cold applications were had recourse to; the vagina was effectually plugged with large pieces of sponge, and ergot was administered by the mouth. Uterine action went on so briskly, that in less than an hour I removed the plugs, but the flooding that then occurred was so alarming, that I at once introduced my hand into the vagina, and managed to get nearly the half of it through the os uteri. I tried, but without effect, the practice of insinuating my hand past the margin of the placenta. In fact, the latter organ was broken up by my efforts, the blood all the while streaming down my arm in considerable quantity. From the small size of the uterine cavity, nearly half an hour elapsed before I could lay hold of the feet, but this object was at last accomplished, and a dead male child extracted. The mother had a slow recovery in consequence of a slight attack of metritis.

Case 11. Mrs A., pregnant for the third time. In her two previous confinements instruments of some kind or other had been used. In both instances the children were dead. On the present occasion, my assistance was requested by the attending surgeon, about half-past 1 a.m. On my way to the house, I learned that the patient had been attacked with flooding on two or three occasions during the last month of pregnancy; that the pains had commenced at 7 p.m., and that when the messenger came for me, the flooding was very alarming. The patient's usual surgeon had been called; he ordered cold applications, and administered an opiate, with the effect of checking the hæmorrhage, after which he disappeared, and whether from ignorance, accident, or design, he could not again be found. Another surgeon was accordingly sent for, but before his arrival an enormous quantity of blood had been lost. As the hæmorrhage was still going on profusely, my assistance, as already stated, was required. I found the patient cold, pale, and nearly pulseless, but still sensible and able to swallow stimulants. On examination, I discovered, in the first place, that the sacral promontory jutted forwards, diminishing much the antero-posterior diameter of the pelvic brim; in the second, that a considerable portion of the placenta had escaped through the fully dilated os uteri; and, in the third, that the child was presenting transversely. As the woman still continued sensible, and as the pulse rather improved under the use of stimuli, I thought it proper, before withdrawing my hand to search for, and bring down the feet of the child into the pelvis. This was easily accomplished, but it was with difficulty that the breech was brought through the superior strait; just as this was effected the poor woman breathed her last. Not wishing to leave the child in such an unseemly position, I tried to get it away, but the pelvic brim was too contracted to allow of the descent of the large head, I therefore lessened it by means of the perforator, and thus completed the most anxious and distressing case it has yet been my fortune to meet with in obstetric practice.

Case 12. Mrs M'M. (the patient whose first labour has already been described, see Case 10,) when about seven months advanced in her second pregnancy, was taken with labour at 2 p.m. Flooding accompanied the pains and was very profuse. Nearly an hour elapsed before I reached the patient's house, I then discovered the placenta almost entirely protruding from the os externum accompanied by the child's feet; a very few minutes only elapsed before the entire delivery was accomplished. The child was putrid—the mother had afterwards no unfavourable symptom.

CASE 13. Mrs H. aged 24, a primipara, had during the course of gestation several well-marked hysteric paroxysms. Labour came on at the usual time and advanced favourably to its termination. Four hours afterwards she was seized with a violent convulsive fit; the body was bent as in opisthotonos; the jaws were firmly closed; the arms were rigid, the fists clenched, and the eyes open and staring; there was, however, no biting of the tongue, no foaming at the mouth, no flushing of the face, and no hissing with the respiration. The symptoms in short, both positive and negative, left no doubt as to the nature of the attack. The patient, on recovering from the fit, became quite sensible—she sobbed frequently, and complained of a choking sensation in the throat. Paroxysms of a similar nature to the above recurred very frequently during the succeeding twenty-four hours, but they ultimately gave way to treatment of the usual anti-hysteric description.

CASE 14. Mrs M., aged 28, pregnant of her fourth child, was seized at the full period of utero-gestation, with violent convulsive fits of the same character as those narrated in the preceding case. On my arrival I was told that she had been complaining of pains in her back for several hours, and that the water which I saw inundating the floor had been suddenly discharged during one of the fits. With some difficulty I obtained leave to make an examination. I found the os uteri dilated to the size of a half-crown piece, and the membranes still entire, which circumstance, in conjunction with some others, satisfied me as to the nature of the watery discharge. Let it suffice to say, that after the exhibition of the tinct. valerian. ammon., no more fits ensued. The subsequent progress of the labour was natural and satisfactory.

CASE 15. Mrs W., aged 26, was attacked after her second labour, which was tedious, with profuse uterine hemorrhage. After this had ceased, rigors came on followed by an attack of convulsions. The respiration was hissing—the face was pale, the pulse was very small and frequent, and the extremities were cold. The application of warmth to the feet, of cold to the head, and of an anodyne enema, followed up by the internal exhibition of camphor when the patient could swallow, prevented any recurrence of the fit.

CASE 16. Mrs S., aged 21, of a plethoric habit of body, was taken in labour with her first child at 4 P.M. At 8 P.M. I was called. The os uteri was then dilated to the size of a half-crown piece; the pains were regular. The patient complained of an acute pain in the head, and a sense of constriction across the chest. The pulse was 90, full and strong, the face flushed and swollen. Twelve ounces of blood were drawn from the arm, which relieved the headach and evidently favoured the dilatation of the os uteri. At 10 P.M., just as this aperture had attained its greatest amplitude, a frightful attack of convulsions of the usual so-called epileptic character took place. The bandage was removed from the arm, and blood again allowed to flow to the extent of ℥xxiv. An enema was then administered, and cold applied to the head. The paroxysm lasted but a few minutes, and left the patient in a state of stupor for about ten minutes longer. On recovering she appeared totally unconscious of all that had taken place, and wondered what we were all making such a "fuss about." After the lapse of a quarter of an hour, she was again seized with a fit or rather a series of fits, which followed each other in rapid succession for the space of half an hour. Ten ounces of blood were drawn from the arm, and as the head of the child was within reach of the short forceps, they were applied, and a still-born male child extracted. The patient lay for several hours after delivery in a comatose condition, but had no return of the convulsions. Her recovery afterwards was astonishingly rapid and satisfactory.

CASE 17. Mrs M'L—, aged 27, second pregnancy, ninth month. Labour commenced at 10 A.M. and pursued a favourable course until 2 P.M., when after the birth of a large female child, and the extraction of the placenta, tremors of rather a violent character, and unaccompanied with any sensation of coldness, supervened. These soon subsided. About 6 P.M., patient complained of a violent pain in the præcordial region, which impeded respiration; this was followed by excruciating pain in the head. I was then sent for, and found her complaining much of the headach—the cramp of the stomach as she expressed it, had by this time subsided; pulse 48, small and irregular. She was now seized with slight convulsions, affecting only the face. Blood was drawn to the extent of 20 ounces, and a pill, containing two drops of croton oil, administered; the blood-letting afforded great relief; mustard poultices were ordered to legs, and cold wet cloths to temples.

Nov. 5, 9 A.M. Learned that the patient had twelve convulsive paroxysms of a most violent character during the night, and that she had been quite unconscious in the intervals. At this time she lay in a state of coma; pulse 68, fuller and more regular than on the previous evening; pupils of eyes contracted; no action of bowels; blood was drawn to the extent of 14 ounces; head ordered to be shaved, and a jug of cold water to be dashed from a height on vertex—to be repeated again in an hour, and cold wet cloths to be assiduously employed in the interval—an enema of turpentine, assafœtida, and gruel, was also directed to be given.

2 P.M. Patient had three convulsive attacks since last visit. Cold dash had momentarily aroused her from her state of coma. Enema had not acted; pulse 68 as before; pupils still contracted. Three drops of croton oil were put on tongue. Cold dash was again used, and mustard sinapisms were applied to calves of legs.

9 P.M. There had been no return of convulsions since last visit; bowels had acted slightly; patient was somewhat alive to painful external impressions; pulse 84 and regular, but small. A large blister was ordered to the nape of the neck, and the enema to be repeated.

Nov. 6, 9 A.M. Bowels had acted freely; blister had risen; no return of convulsions; a favourable change had taken place about 6 A.M., as was evident from the patient recognising some of her attendants; the pulse was 80, and the patient complained of no pain. A very small dose of tartar emetic with calomel was ordered. The cold cloths were still to be continued to the head, and strict quietness observed.

9 P.M. Still more consciousness than in the morning; patient not aware of anything having been wrong with her, is very much amazed at the "work made about her," pulse 78, no more action of the bowels.

Nov. 7, 10 A.M. Patient evidently weakened in intellect by her attack. An ounce of ol. ricini was ordered.

Nov. 8, 10 A.M. Patient has passed night in a high degree of maniacal excitement, she could with difficulty be kept in bed. The castor oil ordered yesterday operated freely; pulse 90; tongue clean; lochia natural. There appears to be now great despondency, but patient cannot be got to speak, so that the nature of her hallucinations cannot be ascertained. Cold applications to be continued to head, and strict quietness to be observed.

6 P.M. No change in symptoms—10 grains of camphor, with three of extract of hyosciamus to be given immediately.

Nov. 9, 10 A.M. Patient is considerably better, answers questions coherently, though there is still a vacant expression of countenance. From this date on to the 20th, patient continued to improve, and was then quite well.

CASE 18. Mrs S., aged 35, had previously borne four living children. Towards the termination of her fifth pregnancy, she went at about 6 P.M. to lift water from a draw well. Whilst doing so she felt something, as she said, giving way in her side. This was almost immediately followed by sickness, vomiting, excessive prostration, and a slight discharge of blood per vaginam. At 8 P.M. I arrived, and found her complaining of acute pain in the left side; the pulse at the wrist was nearly imperceptible; the respiration was hurried; the features were sharp, and the extremities cold. Feeble uterine action had come on about n hour previous to my arrival. On examination I found the head of the child rotruding through the almost fully dilated os uteri. At first I concluded from he symptoms that the uterus had been ruptured, but the circumstances of the hild's head being felt in the natural situation, and of the labour going on, cer-ainly staggered me in this belief, and made me hesitate to adopt any practice ounded upon it. Stimulants were accordingly given, warmth was applied to he feet, and a mustard sinapism to the affected side. Under this treatment the atient rallied a little, and after about two hours the head was entirely in the avity of the pelvis. Uterine action then ceased; the symptoms of prostration ecame more alarming, and the patient was nearly insensible. I applied the orceps, and at 12 P.M. delivered her of the largest male child I had ever seen, —it was dead. The placenta required the introduction of the hand for its ex-raction, and whilst doing so I became *pretty well* satisfied of the existence of a ransverse rent in the uterus, apparently just above the cervix, but this rent ppeared to me not to extend through the whole substance of the uterus, not in hort to affect the peritoneal coat. No hemorrhage followed the extraction of he placenta, but the patient never recovered from her collapsed condition, and ied at 2 o'clock next day. An inspection of the body could not be obtained.

ARTICLE II.—*Cases illustrating some of the Effects of Indian Hemp. By* JAMES ADAIR LAWRIE, M.D., *Surgeon to the Royal Infirmary and Lock Hospital of Glasgow.*

Having frequently witnessed the intoxicating effects of BHANG, r EXTRACT OF THE INDIAN HEMP, on the natives of Bengal, I was aturally anxious to test its medicinal virtues; and three or four ears ago I requested a young medical friend to send me some from Bombay. This he neglected to do, and it was only very recently hat I procured a supply from one of the Medical Halls of this city. It is prepared in the form of a resinous extract, which is adminis-ered medicinally, in the form of tincture or pill. Each 16 drops f the tincture contain one grain, and each pill half a grain of he extract. So far as I have been able to observe their compara-ive effects, the tincture is the more active.

CASE 1. The first patient to whom I gave the Indian hemp, was a lady with nfluenza, and distressed with severe cough, occurring in violent paroxysms uring the night. Twenty drops of the tincture were given at bed-time. The mmediate effect was an inclination to vomit, but the medicine was retained; n a quarter of an hour she fell asleep, and passed a good night, with very little ough. Next morning she experienced no unusual feeling. On the following ight the dose was repeated, with a very similar, but not so decidedly beneficial ffect. The lady, from an aversion to medicine of all kinds, and to narcotics in articular, declined persevering with the hemp.

CASE 2. A young lady, aged 15, of a nervous temperament, who, for many onths had been afflicted with an almost constant dry hacking cough, (and on hom medical treatment, of almost every kind, had been nearly exhausted,) nd who, in addition to her other symptoms, seldom fell asleep till 5 A.M., ap-eared a likely patient to be benefited by the new narcotic. I gave fifteen drops n water at bed-time. In about one hour and a half after she had taken it, I was hurriedly sent for; and, upon my arrival, found her in a state of great alarm, with a feeble pulse of 130, severe palpitation, a feeling of contraction in the throat, dryness in the mouth, spasmodic twitchings in the limbs, drowsiness, with, at the same time, a great dread to indulge in sleep. After remaining with her for some time, these unpleasant feelings became more moderate, and the pulse less frequent; but she was obviously considerably excited, and very anxious to get rid of the medicine. In this, after some time, I indulged her, by administering an emetic of ipecacuanha. She vomited freely, fell asleep about her usual hour, and awoke without any uneasy sensations. Some days afterwards, this young lady, at her own suggestion, begged to have another dose. I gave her ten drops. The effect was very much as formerly; she did not get an emetic, but next day was quite well.

As both of these patients were aware that they were taking a new medicine, from which they expected narcotic effects, I next gave it to five patients who had no possible means of knowing what they were taking. I went on the evening of the 2d of June to the Lock Hospital, and gave five of the patients, in separate wards, half a drachm each of the tincture. Neither the patients nor any one else knew what the medicine was, or what I expected from it. I did not visit the house till next day, later than usual, and about twenty-two hours from the time that the medicine had been given. I was eagerly asked by my clerk and the matron what I had given the night before. The matron told me that in about an hour after I had left, she was disturbed by shouts of laughter, singing, crying, loud talking, and swearing in the wards. She found that these unwonted noises proceeded from four patients, who said I had given them a green dose; that they continued so riotous and ill during the night, that she had very little sleep, and that some of them were still under the influence of this unknown drug. The effect was nearly the same in all, and closely resembled intoxication by spirits. The secondary narcotic effect was not greater than what usually follows a moderate dose of whisky. I shall give the details of the best marked of the five cases.

Case 3. Mary Hamilton, aged 24, was admitted on April 9, 1844, for four phagedenic sores on the genitals and around the anus, of which one was as large as a five-shilling piece. For the sores she underwent the usual treatment, one part of which, when the pain was great, consisted of opium in full doses, with wine. At one time she had from eight to twelve grains of solid opium in the day. On the 3d June she was taking a grain of opium every three or four hours, and three grains of sulphate of quinine daily. The sores were healthy, and healing rapidly, and her general health was very much improved. The following is the report in the Journal, of the effects of the hemp:—"At 7 a.m., *June* 3, the opium was omitted, and she took ʒss Tinct. Cannabis. In a few minutes she began to sing, and show symptoms of intoxication, in which state she continued all night, with very little sleep. At present (3 p.m.) she is still intoxicated; and when asked to show her tongue, she replied that she never had any to show. The pulse is 96, and feeble; the feet are cold and clammy; the pupils are widely dilated and fixed. She exhibits considerable evidence of aphrodisia.—*June* 4. The effects of the drug are not quite gone; the pupils are still dilated; she has no headach, the pulse is weak. She says that she would on no account take another dose. The girl, before she got the hemp, and after its effects had gone off, was remarkable for her quiet demeanour, and (if such an expression can be applied to the inmate of a Lock Hospital) for her modest conduct.

CASE 4. Barbara Marshall. This girl got the same quantity, and at the same time as the patient described in Case 3. She vomited during the night; and next day the pupils were dilated and fixed.

Three out of the five vomited; none of them fell asleep till five hours after the medicine was given; none were permanently injured by it.

My assistant, Mr Parker, a licentiate of the Faculty of Physicians and Surgeons, was so much struck with the effects produced on the above patients, that he offered to spend a day in the hospital, give the Indian hemp in the morning, and carefully watch and note its effects. Accordingly, on the 9th June, (Sunday), he gave six or eight of the patients forty grains of the tincture at eleven o'clock forenoon; he remained all day and took accurate and frequent notes of the effects. The dose was too large; and when I visited the hospital a few hours after, I found his hands too full, as the following cases will show.

CASE 5. Ann Boyle, aged 20, admitted June 5, of dark complexion, light and healthy aspect; has neither been in the habit of taking opium, or any of its preparations. At twenty-five minutes past twelve she had twenty-five minims of the tincture, having had breakfast at fifteen minutes to eleven o'clock. The pulse is 90, and of fair strength.—*15 minutes to* 1. She feels a slight drowsiness, and is thirsty; the pulse is as when the drug was given.—*15 minutes past* 1. She became sick and vomited. She says she feels lighter since. The pupils are slightly dilated, and sluggish. The pulse is 70, weak, and irregular.—2 P.M. She has been seized with convulsions. The tongue hangs out of her mouth, and is rolled from side to side with great rapidity. Opisthotonos, alternated with very violent convulsive movements of the upper and lower extremities. The pupils are dilated and insensible; the pulse perceptible at wrist, but so small and irregular that it cannot be reckoned. The heart's action is feeble and tumultuous.—*15 minutes past* 2. She had twenty-five gr. of Pulv. Ipecacuanæ, and in ten minutes vomited. Cold douche to head. The feet being cold, warmth was applied. In a few minutes she again vomited, the matter vomited having a strong smell of the cannabis.—3 P.M. The convulsions ceased; and slight tremors only are remaining. The pupils are still dilated and insensible. There are violent movements of the eye-balls, which are sometimes turned up so as completely to conceal the pupil. The heart's action is still feeble and tumultuous; the pulse perceptible at wrist, but cannot be reckoned. She seems to have a sense of constriction and choking about the throat, with slight hoarseness. The countenance and lips are pale. She can be roused, but does not answer correctly.—*30 minutes past* 3. She is still in a state approaching to stupor. The breathing is nearly natural. She now answers correctly, and complains of intense headach, and sense of constriction in throat and chest. There is still tremor over the body, but no convulsions. The heart's action is still feeble and tumultuous. The pulse and pupils are as at last report. She has still intense thirst.—5 P.M. She is asleep. The sleep seems disturbed. On being awakened she is quite sensible, and answers correctly. The pupils are now natural, but sluggish. The pallor of lips and face is gone off. Pulse 84, soft and full. The tremors disappeared: the head painful and confused, and she is weak.

CASE 6. Rosannah Williamson, aged 30. She never took opium, and is not addicted to ardent spirits. The countenance is naturally pale. The pulse is 62, regular, but weak; the respirations are 18 in the minute. The heart's action is regular, and its sounds distinct. She had breakfast at ten o'clock.—*25 minutes to* 2. Thirty drops of the tincture were given.—*15 minutes past* 2. She is laughing involuntarily, and complains of much hunger, but has no thirst. Her eyes are suffused; the pupils are natural.—*30 minutes past* 2. She is crying and wringing her hands, saying she is dying; her countenance is very pale, and she says that other patients are striking her, though no one is touching her. The heat of the body is natural; she seems unable to open her eyelids properly.—*20 minutes past* 3. She vomited freely about twenty minutes ago, and again in ten minutes thereafter, and then fell asleep. She seems calm; but slight tremors of the body and limbs are observable. The pupils are double their natural size, and the countenance is still very pale. She is made to answer with difficulty, and complains of cold, although the heat of the body is natural. The pulse is 84, and rather feeble. The respirations are 18, deep, and somewhat laboured. The hands move convulsively.—*30 minutes past* 7 P.M. She slept for twenty minutes after last report, but has not slept since. The face is less pale, and the pupils are rather irregular. The suffusion of the eyes is less. The pulse is 66, firm, but small. The heart's action is regular. The respirations are 12, easy, and natural. She feels very hungry, and weak, and has still some thirst, but no inclination to sleep.

Case 7. Mary Miller, aged 16, not accustomed to opium, nor addicted to spirits. Her pulse is 96, regular, but rather feeble. The respirations are 20; the heart's action is regular, and its sounds are distinct.—*15 minutes to* 1. She got twenty drops of tincture of Indian hemp at this time. Had breakfast two hours and a half ago.—*15 minutes past* 2. The dose has had no apparent effect, and she is now taking her dinner. *30 minutes past* 3.—She feels as if getting tipsy; her countenance is of the same hue as previous to the administration of the drug. The pupils are natural and moveable. The pulse is 78, slow and labouring; the respirations are 18, and regular. The eyes seem slightly suffused, and the expression of the face indicates inebriety. The heart is acting strongly, and its sounds are normal. She has no thirst.—*20 minutes to* 8 P.M. The eyes are still suffused and dull: the pupils are twice their natural size, and irregular. The countenance is flushed, and she still feels as if intoxicated. She has no headach, but feels giddy. She has no sense of constriction nor thirst. The pulse is 86, feeble and compressible. The heart's action is regular, but the first sound seems louder than before. The respirations are 20, regular, and natural. Shortly after last report she fell asleep, and slept calmly and soundly till half an hour ago, and now she feels quite well.

Case 8. Isabella M'Ray, aged 19, has not been accustomed to opium, but has used spirits freely. The pulse is 80, regular, and of fair strength; the respirations are 20; and the heart's action is regular, and its sounds distinct.—*20 minutes past* 1. She had ten drops of the Tincture of Indian Hemp.—*15 minutes to* 2. She feels giddy, and says she "sees the house going round." The pulse is 86, and of the same strength as before the drug was taken.—*5 minutes past* 2. She has great thirst, and is very restless. She talks incoherently, and says "she knows not where she is." The pupils are twice as large as before, and she bursts into fits of laughter. The pulse is same as at last report, small, but of fair strength. She feels faintish, and has a sense of choking in the breast and throat.—*20 minutes to* 3. The face is pallid, otherwise she is in the same state.—*20 minutes to* 4. Her face is now less pale, and the pupils are of the natural size. The eyes are not suffused, but she is still very giddy, and has great thirst. Her mouth is dry and parched, and the lips are pale. The pulse is 106, and of good strength. She still laughs occasionally. The respirations are 24, and regular.—8 P.M. She feels better, but has severe frontal headach; the pupils are again dilated and sluggish. Her face is still pale, but the eyes are not suffused, and the giddiness has abated, as also has the thirst, but she is still very hungry. Her lips are pale. The pulse is 90, and is full and firm. The heart's rhythm is natural. She feels very weak and heavy, but is not sleepy.

CASE 9. Helen Wood, a tall, dark, and healthy mill-worker, of full habit, is not accustomed to opium.—5 *minutes to* 12. Forty drops of the tincture of Indian hemp were administered to her, she having had breakfast an hour previously. Her pulse is 90, full, and of fair strength.—20 *minutes past* 12. She feels drowsy and thirsty; the pupils seem slightly dilated; the pulse is the same as at administration.—20 *minutes to* 1. She bursts into fits of involuntary laughter, and talks incoherently, but answers questions correctly. The pulse is 115, and the pupils as at last report.—15 *minutes past* 1. She feels heavy, and has a sense of sinking. The pupils are as at last report. She talks incoherently, but seems to be aware that she is doing so, though unable to prevent herself. She suffers intense thirst, and her pulse is 100, full, but weak.—30 *minutes past* 1. She says her tongue is burning; her lower jaw is moving convulsively; her pulse is the same as at last report. She complains of a feeling of weight pressing down her body. She has begun to scream loudly, and to exclaim that her hand is going through the wheels. The pupils are the same as at last report, and sluggish.—2 P.M. She has vomited, and now feels much better. There is no change in the pupils. The hands are cramped.—3 P.M. She has been quite relieved since the vomiting, is calm, and answers questions correctly. The pupils are still dilated, but are more sensible. Her thirst has abated. The pulse is 80, full, and of good strength. She complains of being very hungry, and eats ravenously. The countenance is natural.—30 *minutes past* 5 P.M. The pupils appear as at last report. She has no headach nor sickness; has not slept; and is very hungry.

CASE 10. Mary Todd, aged 20, a tall, fair, and healthy, though scrofulous-looking person, not accustomed to take opium, with appetite good, and discharges regular.—20 *minutes to* 12. She got forty drops of the tincture, having had breakfast about an hour previously.—15 *minutes past* 12. She feels drowsy, and complains of thirst. The pupils are unaffected. 15 *minutes to* 1.—She is asleep, but talking.—10 *minutes past* 1. Her thirst continues, and she talks incoherently. The pupils are natural, and the pulse is 80. 30 *minutes past* 3.—She is drowsy. The pupils are sluggish, but not dilated. She still experiences thirst, and talks incoherently. She complains of bad taste in her mouth. She has no pallor of face, but complains of a great feeling of weight, and is unable to bear the pressure of the bed-clothes. She is free from sense of constriction in the throat or chest. The pulse is 90, and of fair strength.—5 P.M. She still continues drowsy, and has slept since last report. She can be easily roused, and answers correctly, though occasionally incoherent.—30 *minutes past* 5 P.M. She is still very drowsy, having slept almost constantly since half-past 3. Her sleep is disturbed; her countenance is of a natural colour. Both pupils are slightly dilated and sluggish. She has no headach; the bad taste in her mouth still continues. She complains of pains all over her body, and is still very thirsty; there is no incoherence. The pulse is 112, full, but soft. Half an hour ago she complained much of a feeling of hunger, and took food.

CASE 11. Margaret Walker, aged 20, a tall dark-complexioned woman, of healthy aspect, spare habit, and not accustomed to use opium.—55 *minutes past* 11 A.M. She took forty drops of the tincture, having had breakfast three quarters of an hour previously. The pulse is 96, regular, and of fair strength. —15 *minutes past* 12. She feels drowsy, and there is no other perceptible effect upon her. The pulse is the same as at administration.—20 *minutes to* 1. She is asleep, but restless, with convulsive movements of her hands.—10 *minutes to* 1. She is awake and complains of severe pain at vertex. The pupils are now slightly dilated; there is occasional sobbing.—1 *o'clock*. She remains as at last report, with the addition of convulsive twitchings of her limbs, and tremors of the whole body.—10 *minutes past* 1. The sobbing has ceased, and she begins to complain of thirst. The tremors and twitchings continue, with the addition of the lower jaw being now similarly affected. The pupils are more dilated, but still contractile. The pulse is 80, weak, and fluttering.—25 *minutes past* 1. She says that she feels better, but seems much the same, except that the twitchings and tremors have ceased. She has got up, but walks unsteadily, and talks incoherently.—30 *minutes past* 3 P.M. The pupils are still dilated, and sluggish; the headach is general, but most severe at the vertex. She complains of severe pain in the eye-balls, and her thirst is increased. She has a sense of constriction in her throat and chest, and says she feels as if being "smothered." The pulse is 78, and feeble. She answers correctly, and without incoherence.—30 *minutes past* 5 P.M. She feels very drowsy, and has had occasional short sleeps since last report. The colour of her countenance has been natural throughout. The right pupil is dilated and insensible; the left is less dilated, but is also insensible. The headach and pain in the eye-balls still continue, as also the thirst. She has a bad taste in her mouth, and the sense of constriction in the chest still continues. The pulse is 90, full, and firm. Half an hour ago she felt very hungry, and on food being obtained she ate greedily.—*June* 30. Last night the extract was applied round her right eye, but to-day no effect is visible on the pupils.

CASE 12. Ann Arthur, a tall, dark, and healthy woman, of spare habit. She is at present menstruating, the discharge having been brought on yesterday (ten days after last period) by the introduction of solid caustic into the vagina. She is not accustomed to use opium.—30 *minutes past* 11 A.M. She had one grain of the extract. She is somewhat sick in consequence of her indisposition, and has been unable to take any thing except a cupful of tea, without solid food, about three quarters of an hour ago. The pulse is 94, regular, and of fair strength.—12 *o'clock*. She feels a slight drowsiness. The pulse is 100, and the pupils are unaffected.—15 *minutes past* 12. The drowsiness increases, and she complains of thirst. One pupil is a degree smaller than its fellow.—20 *minutes to* 1. She is asleep, and seems calm.—10 *minutes to* 1. She is now awake, and complains of a burning heat in her head.—10 *minutes past* 1. The pulse is 8[illegible]. She still has much thirst, and complains of intense pain in her eye-balls; the pupils seem slightly contracted.—30 *minutes past* 3 P.M. The pupils are as at last report. She experiences a sense of constriction about the throat and chest, with a feeling of being smothered, and complains of a densation of weight and oppression, being unable to bear the pressure of the bed-clothes. She has still intense thirst. The pulse is 98, and of fair strength. The lips have lost their colour, and the countenance is deadly pale.—30 *minutes past* 5 P.M. She is still very drowsy, and has had snatches of sleep since last report, but they were very disturbed. Her face and lips are still pallid, and the left pupil is larger than the right, which seems contracted: both are sluggish. The sense of constriction and weight is abated. The pulse is 94, soft, and full. She has still intense thirst, with a bad taste in her mouth, and severe headach. The eyes are less painful, but feel very heavy. Half an hour ago she complained much of hunger, and took food. She has just now begun to vomit.

The extract given in pill has not the same rapid and powerful effect as the same quantity in tincture, which the following case of Margaret Miller illustrates.

CASE 13. Margaret Miller, aged twenty-seven, a tall and sickly woman of spare habit, not accustomed to opium till within the last month, when the pain of her sores prevented her from obtaining rest. Since then she has usually taken a drachm of laudanum at bed-time. Her appetite is very bad, and she has taken no food to-day except a cupful of tea, about half an hour ago.—11 A.M. She took one grain of the extract. Pulse is 100, and of fair strength.—1[illegible] *minutes to* 12. She feels slightly drowsy. The pulse is the same as at administration, but firmer and fuller. The iris is unaffected, and she complains of thirst.—20 *minutes to* 10. She is asleep, and seems calm and undisturbed. —1 *o'clock*. She is crying and sobbing convulsively. The pulse is the same as at last report. She experiences less thirst.—30 *minutes past* 1. She is quiet, and the pupils are natural. She does not answer correctly.—30 *minutes past* 3 P.M.

She feels quite easy; the pupils are slightly dilated, and sluggish; the countenance is of a natural colour. She has a bad taste in her mouth. Her thirst has gone off. She had a slight sense of constriction in the throat and chest, but this has now gone off. The pulse is 86, full, but soft.—30 *minutes past* 5 P.M. She is drowsy, but does not sleep sound. She had a slight giddiness, but it has now abated. The pupils are natural, but sluggish. The pulse is 96, but feeble. She feels weak; and does not complain of hunger.

CASE 14. Helen Neilly, aged 21, has not been accustomed to opium or spirits. The pulse is 96, full, and strong. The respirations are 24, and the heart's action is regular, and its sounds are distinct.—*July* 7. 15 *minutes past* 1. She took twenty-five drops of the tincture.—20 *minutes to* 2. She feels drowsy. The pulse is 92, and of the same strength as before.—10 *minutes past* 2. She feels still more drowsy. The pupils are rather dilated and sluggish. She laughs involuntarily, and has no thirst.—25 *minutes to* 3. Her face is flushed, and she feels thirsty; otherwise she is the same as before.—25 *minutes past* 3. Her face is paler, and the pupils are double the size they were when the drug was administered, and rather irregular. Her thirst continues, and her head feels light. The pulse is 96, full, and strong. She slumbers and sleeps, but is easily roused. She still laughs involuntarily, and talks incoherently. The respirations are 20, full, and deep.—15 *minutes to* 8 P.M. She feels better, and has slumbered since last report. Her countenance has returned to its natural colour. The pupils are the same as at last report, but sluggish. The eye is less suffused, and the sense of constriction is gone. The heart's action is natural, and she feels very hungry. The respirations are 22, natural, and easy. She feels rather weak. —*8th.* 8 A.M. She has slept some during the night, and now feels quite well.

CASE 15. Maria Dow, aged 21, never took opium in her life, and has not been addicted to spirits. Her countenance is rather ruddy: the pupils are small. The pulse is 96, soft, and feeble. The respirations are 26. The heart's action is regular, and the sounds are distinct.—5 *minutes past* 1. She had given to her fifteen drops of the tincture. She had breakfast at 10.—10 *minutes past* 2. She is laughing involuntarily, and talks rather incoherently. The pupils are dilated, but freely moveable. The pulse is 94, and of fair strength. She complains of pain in the left hypochondrium. She is very thirsty, and moans occasionally.—20 *minutes to* 3. The pulse is 115, and feeble. She talks incoherently, and seems very distressed and restless. Her face is flushed, and eyes suffused.—15 *minutes to* 4. Her face is paler than at last report, her thirst has abated, and she feels well. The eyes are still suffused, and the pupil is double the size it was at administration, and sluggish. She has a sense of tightness in the precordia, and in the whole of the sternal region. The pulse is 100, and feeble. The heart's action is regular. The respirations are 28, quick, and deep. She complains of startings in her feet, but no twitchings or tremors are observable. The heat of the body is natural. The cannabis seems to have a decided aphrodisiac effect on this patient. About 3 o'clock she got up, put on her clothes, and danced about the ward; forced her way out of it, and was nearly down stairs before she could be restrained, when, partly by force, and partly by soothing, she was got back to bed.—8 P.M. She has a severe frontal headach. The pupil is the same as at last report. The eye is still suffused, but less so than before. Her thirst has again increased. The heart's action is regular, and its sounds are distinct. The respiration is 26, deep, and laboured. The pulse is 100, and feeble. She feels very weak, and has no tremors. Her face is flushed, and bathed in perspiration.

CASE 16. Mary Ann Hector, aged 19, a woman of ordinary stature, and dark and bloated habit, has venereal disease, as exhibited in foul sores and bubo. She has been in the Hospital since June 17th, and has been treated with Plummer's pill.—*June* 25. Four or five days ago she had gr.ss. of the extract, which produced no effect for six hours, after which it induced symptoms of intoxication, with giddiness in the head. Next morning, and ever since, she has experienced severe frontal headach, for which she was bled on the 23d, with slight relief at the time, but the pain soon returned. The eyes are clear, and the action of the bowels is regular.—*27th.* The headach still continues. She had gr.ij. of opium. She feels more pain to-day.—*29th.* Her headach has been relieved by a tepid bath last night.—*30th.* The extract was applied round her right eye last night, but without producing any effect on the pupil.

Case 17. Barbara Marshall, aged 25, a tall, dark and sickly woman, of spare habit, affected with rheumatic pains, nodes, &c. She has been in the Hospital since 1st May.—*June* 3. The pain and swelling which has for some time existed in the knee is getting better; otherwise she is quite well. Last night, at 7 P.M., she had ʒss. of the tincture of Indian hemp administered to her. In a few minutes she became heavy and sleepy, and had a feeling of inability to speak or lift her limbs, with general debility. She slept very well, and awoke between 7 and 8 o'clock A.M., when she vomited the tincture, according to her own account. At that time she had a feeling of lightness in the head.—5 P.M. The pupils are dilated and fixed.

Case 18. Margaret Wilson, aged 19, a short, dark and sickly woman, with venereal phagedenic sores, and tubercles, was admitted into the house on 8th of May.—*June* 3. Last night, at 7 P.M., she got ℈ij of tincture of Indian hemp, which in an hour and a half caused signs of intoxication, ending in loud laughter, crying, and incoherence. At midnight she fell asleep, and awoke at 8 A.M. quite well.—*30th.* The extract of Indian hemp was applied round the right eye last night, but had no effect on pupil.

Case 19. Mary M'Donald, aged 19, and not addicted to the use of opium or spirits,—of a ruddy countenance. The pulse is 94, full, strong, and bounding. The heart's action is regular, and its sounds are distinct. The respirations are 22, regular and easy.—*25 minutes past* 1. She took two drops of the tincture.—*30 minutes past* 2. It has had no effect, excepting that she feels thirsty and giddy. —*20 minutes past* 3. She seems slightly drowsy, and feels rather thirsty, the pupil is unchanged; the pulse is 88, full and firm; the countenance is the same as at administration.

Case 20. Elizabeth Boyd, aged 17, has venereal sores and bubo, for which she has been in the house since 1st July.—*6th.* 5 P.M. She took 20 drops of the tincture of Indian hemp.—10 P.M. In about two hours she began to sing and laugh very loud, appearing as if intoxicated, and seemingly unconscious of who was present; she said her prayers—and fell asleep half an hour ago, but is easily awakened; the pulse is 84. Her eyes are a little suffused, and the pupils somewhat dilated.

Case 21. Catherine Goodwin, aged 19, has venereal disease exhibited in sores and warts; has been in the house since 5th July.—*6th.* 5 P.M. She had 20 drops of the tincture administered to her.—10 P.M. The dose has had no effect whatever. —*8th.* Yesterday at 5 P.M. she had forty drops given her, without producing any intoxicating effect; she fell asleep in an hour, and slept soundly for 10 or 12 hours, and awoke very hungry.

So far as I have yet gone in pointing out the effects of the Indian hemp, it was given for the purpose of ascertaining its physiological more than its therapeutical properties. The medicinal effects require more time for investigation than I have had since I procured the medicine,—the following cases, however, are to some extent illustrations of the benefit which may result from its use.

Case 22. Helen M'Cann, aged 23, admitted June 19, with a child at her breast, and both affected with a copper-coloured eruption. She had mammitis ending in the formation of an abscess, which was opened by the lancet on July 6th. The pain caused by the operation being great, I thought it a good case for trying the anodyne properties of the Indian hemp. At 5 P.M., *July* 6, she got a scruple of the tincture, so disguised with compound spirit of lavender, that she could not know what it was. I called at the hospital at 10 P.M., and took the following report. " She began to weep in three quarters of an hour after taking the dose,—in two hours fell asleep, and slept nearly two hours,—talking during her sleep,—the pain is much relieved, and at present she is quite well; all effect has gone off, except that she is very hungry; the pulse is 90. This was so far favourable; next day, however, I find the following report in the books.—*July* 8*th*. . . " To take another dose of the Indian hemp; but she declines, saying that the last had, for a time, the effect of making her quite unable to take charge of her child, and that she would rather endure the pain of her breast, than take more of the hemp."

As a contrast to this case I give the following.—

CASE 23. Helen O'Connor, aged 17, July 15, admitted with gonorrhœa, and painful bubo in left groin, preventing sleep. She is pale, and has the appearance of suffering considerably.—16*th*. She has had no sleep.—17*th*. She had no sleep. Ordered canab. gr.j.—18*th*. She slept well without uneasy feelings.—19*th*. She slept ill, and the bubo is more painful; she had canab. gr.j. 20*th*.—Slept well. 21*st*. Slept ill; had thirty drops of the tincture. 22*d*.—She slept well, and experienced no unpleasant effect; had thirty drops of laudanum, and the hemp was stopped.—23*d*. She slept well, but is sick this morning. She prefers the cannabis to the opium, as she sleeps equally soundly from the former, and its after effect she finds less unpleasant.

CASE 24. Maria Dow, aged 24, admitted July 6, for a large suppurating bubo. It was opened on the 14th, and being very painful, the cannabis was ordered. On the 20th she was sleeping better than since her admission; but in a few nights she declined taking it, saying that she would prefer doing without it.

CASE 25. Mary Morrison, aged 32, admitted June 11, for warty tuberculated sores about the genitals. On the 21st she is reported as being feverish, with severe rheumatic pains. She had the usual remedies, but on the 6th of July she was by no means well; on that day she had five drops of the tincture; the medicine was disguised with compound spirit of lavender; even this small dose produced incessant loud and painful laughter; I suspected that she was feigning, but the girls of the same ward assured me that so far as they could observe, she was not. Previous to taking it she was of a grave melancholy disposition.—*July* 11*th*. The swelling and pains of the joints are gone; she thinks the cannabis has done her much good, and has greatly improved her appetite.—Cured.

CASE 26. Elizabeth Taylor, aged 28, admitted June 21, took the cannabis in the same dose, and for a similar affection as the former. It made her drowsy and gave her a headach; the pains were relieved, and the appetite improved. She is still in the hospital. On the whole the cannabis seemed to do her good.

I have not had an opportunity of testing the virtues of Indian hemp in tetanus or acute spasmodic affections.

From the trials which I have made of the cannabis, of which the above cases are examples, I think I am justified in drawing the following conclusions:

1st, It seems to belong to that class of narcotics which rapidly induce excitement and intoxication, followed by sleep, neither sound nor refreshing.

2d, In a full dose it acts powerfully on the heart, causing palpitations, and rapid, weak, intermittent pulse; and on the nervous system, producing delirium, coma, convulsions, and dilated pupils.

3d, Its effects are generally transitory. In one case, however, (Mary Hamilton), the intoxication and dilatation of the pupils lasted nearly forty-eight hours.

4th, It is a very uncertain agent, in some cases producing the most violent and seemingly dangerous symptoms, in others being nearly inert.

5th, It very frequently causes vomiting, which, whether it occur spontaneously or from emetics, very speedily relieves its unpleasant and perhaps dangerous effects.

6th, Applied around the eye, it does not dilate the pupil.

7th, It exerted little influence on the few patients, to whom it was given in the form of enema.

8th, I do not think it is a valuable addition to our narcotic medicines. In very few instances did it act as an agreeable soporific and anodyne; in none did it succeed when opium had failed; and in one case only was it preferred to opium. I do not think it is to be trusted to.

9th, So far from acting generally as an anodyne, its effect was so disagreeable, that the majority of those who took it once, only did so a second time on compulsion; and this is the more remarkable, as the patients on whom I experimented belong to a class to whom stimulants of all kinds are familiar, and who would greedily swallow opium and spirits to an unlimited amount.

10th, It seemed useful in two cases of subacute rheumatism.

11th, It caused an immediate craving for food, and in a few permanently increased the appetite.

Article III.—*Some Cases of Acute Cynanche Tonsillaris treated by Guaiacum. By* Beverly R. Morris, A.B., M.D., T.C.D. *Physician to the York Dispensary.*

The treatment of Acute Cynanche Tonsillaris by large doses of guaiacum, was, I believe, introduced by Mr Bell of Barrhead a few years ago; but I am not aware that much notice has been taken of it in the periodical press since that time. I have given the medicine a fair trial in the dose recommended by Mr Bell, and it has certainly fully borne him out in the remarks he then made. In most cases I have found it necessary to give aperients during the treatment, but not always. My usual course is first to give a gentle emetic, followed up by an aperient, and the guaiacum mixture in half drachm doses, thrice a-day. The rapidity with which this treatment gives relief is quite extraordinary; its obvious action is generally to increase the secretions, more particularly of the skin and kidneys, with very rapid removal of the urgent symptoms. I have at various times tried other plans of treatment, but none have equalled this in certainty and speed.

In ordering the guaiacum I have avoided any other treatment, in order to give it a fair trial, and I have had no occasion to regret having relied upon its efficiency.

Case 1. *Sept.* 10, 1841. Mrs W——, aged 35. Ill seven days. Had great pain and difficulty in swallowing for the last week. Pulse moderate; tongue foul; bowels slow; the tonsils almost touching, dark red.—*Sumat statim magnesia sulph. ex aquæ ℥viij.—R. pulv. guaiaci ʒiv.; mucilagini syrupi āā ℥j.; aquæ cassiæ ʒss.; aquæ ℥vj. M. Sumat ℥j ter in die.*

Sept. 12. Nearly well. Tonsils still slightly enlarged.—*Pergat.*

Sept. 14. Convalescent.

Case 2. *September* 12, 1841. Mary Dobson, aged 68. Ill one day; tonsils much enlarged and red; swallowing difficult and painful; pulse quick; tongue very foul, with brown fur; bowels slow; has been long ailing.—*Habeat statim pil. colocynth. c. gr. x. Sumat mist. guaiaci ʒi ter in die.*

September 13. Tonsils much less; tongue nearly clean, but very red and excoriated.—*Pergat: et habeat gargarysma sodæ boratis.*

September 14. Tonsils natural; tongue better, but still excoriated. For this she was under treatment for a few days longer.

Case 3. *Nov.* 12, 1843.—Eliza W——, aged 19. Ill five days; was seized five days ago with rigors and sickness, and soon after with pain and difficulty in swallowing, which has increased till now; much headache and thirst; pulse 84, soft; tongue very foul, with yellowish fur; can hardly open her mouth; tonsils very much enlarged, nearly meeting, and dark red; bowels open from medicine.—*Habeat statim pulv. ipecacuanhæ gr. xv: et h. s. pil. colocynth. c. gr. x. Sumat. mist. guaiaci ʒi ter in die.*

Nov. 13. Can swallow readily; tonsils much less; no pain.—*Pergat.*

Nov. 14. Tonsils less; redness nearly gone; bowels slow.—*Repetantur pil. colocynth. c. et mist. guaiaci.*

Nov. 16.—Tonsils still a little enlarged; feels well.—*Pergat.*

Nov. 18.—Convalescent.

Case 4. *August* 7, 1844.—Sarah C——, aged 25, has been ill one week. A week ago had rigors and vomiting, and soon after the throat was painful, with difficulty of swallowing. Complains now much of the throat, and also of the ears and headach; tongue very foul, with brown fur; bowels open; pulse 90; right tonsil greatly enlarged, and of a bright red; she has been subject to attacks of this kind, and the other tonsil appears permanently enlarged; took an emetic this morning.—*Sumat mist. guaiaci ʒi ter in die.*

Aug. 11. Convalescent, but weak; ordered tonics.

It would be easy to multiply cases of this kind, but the above are, I think, sufficient to show the value of guaiacum, as a remedy in acute cynanche tonsillaris, though, as we might expect, it is of no use in chronic cases.

ARTICLE IV.—*Cases Occurring in Practice. By* JAMES J. ROSS, M.D., *Cambusmore, Sutherlandshire.*

The following cases are arranged under the heads of
1. *Neuralgia*,
2. *Paralysis of the portio dura*, and
3. *Diabetes.*

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1. NEURALGIA.

CASE 1. Mary Maclennan, aged 30, has been ill some months with violent pain in the head, which commenced in the vertex, but which is now, (March 26, 1840,) also felt below the right zygoma, extending along the cheek and lower jaw; it is not always equally acute. Tongue is yellowish; catamenia regular.—*Calomel and jalap.—Nape to be cupped to ℥vj.*

March 27. Pain very severe.—*R. ext. stramonii gr.iv; ext. anthem. nob. ℈j. M. Pil. xij. Sumat unam ter in die.*

April 10. No improvement.—*Omitt. pil.—Habt. carb. ferri ʒss omne nocte h. s.—Ol. ricini pro re nata.*

16*th.* Pain less every morning, but in the evening it is as severe as ever, showing a tendency to periodicity.—*Omitt. carb. ferri.—R. liquor. arsenical. gtt.xl; tinct. opii ʒi. aquæ ℥iv. Cochl. mag. ter in die.*

25*th.* Much better; uneasiness at stomach, with griping.—*Intermitt. mist. arsenicalis.*

28*th.* Gastric symptoms subsided.—*To resume the medicine.*

May 4*th.* Dismissed cured, and free of pain.

This case occurred in the Northern Infirmary of Inverness, while I was House-Surgeon there.

CASE 2. A female, aged about 40, after several weeks most excruciating pain in one cheek, without any decayed teeth, was ordered—July 12, 1842—to take about an hour before the expected paroxysm (which usually occurred about 2 P.M.) 8 grs. of sulphate of quinine, with 2 grs. of opium. She was completely relieved after the one dose, and though two years have now elapsed, there has been no recurrence of the complaint.

CASE 3. Jane White, Dornoch, aged 32, had severe neuralgia of right cheek and side of head, increasing in intensity every evening about eight o'clock. On the 28th February 1843, I extracted two decayed stumps of teeth from the right side of the lower jaw, and ordered quinine and opium, as in the last case, to be taken half an hour before the expected increase of pain. I saw her two months after these measures were practised, and she had then felt no return of the pain.

CASE 4. —— Aitchison, aged about 50, for the last day or two, (July 28, 1843,) has felt pain in right eye, and brow, and side of face generally, which last night became so excruciating, as almost to drive her distracted. It is stated that when the pain is at its height, the eye becomes red and inflamed-looking. When I saw her at nine this morning, the pain had diminished considerably, though it was still severe; no inflammation nor fever; bowels costive and tongue foul. She attributes the attack to sitting at an open window.

Six leeches over eye-brow; ordered extract of colocynth, calomel, and croton oil, to be followed by sulphate and carbonate of magnesia.

29*th.* Pain as violent as ever; bowels freely moved.—*To have a drachm of carbonate of iron every four hours.*

30th. Pain easier, though still present.—*Cont. carb. ferri ʒi ter in dies.* The pain quickly disappeared, and has never since been felt.

Case 5. Miss R. M., aged 42, was seized on the 6th October 1843 with most severe pain in the left brow, beginning at the supra-orbital hole, and stretching up the forehead, and out towards the temple. It began about 6 A.M. and lasted till near mid-day. The spot during the paroxysm was painful to the touch. It recurred at the same hour on the 7th with equal severity, but did not last so long. When the pain ceased, she felt as perfectly well as before it began. Tongue clean: and no cause known. At half-past 5 A.M. of the 8th she had eight grains of quinine, with five of Dover's powder.—*October* 17. Took only the one dose as above, pain still occurs occasionally, but very slightly. —*November* 1. Pain never returned since last date, and I am now enabled to add, that she has continued free of it ever since.

Case 6. Miss ———, aged 13. *October* 7, 1843.—This is a somewhat similar case to the last, with these points of difference:—that the pain is felt about the left zygomatic region,—that it is not so severe,—and that it comes on twice a-day, at half-past 9 A.M., and at 7 P.M. She has felt it for three or four days. *To have four gr. of sulphate of quinine twice a-day before the expected pain.* —*October* 12. No pain yesterday or to-day.—*Cont. sulph. quinæ gr. ij. bis in dies.*—*18th.* No pain since last report; medicine is discontinued.—*November* 29. Some days ago pain recurred, but much slighter and not periodic. *Carb. ferri gr. x. ter in dies.*—*December* 9. Pain gone: and there has been no recurrence of it since.

Case 7. Mrs Henry, aged 40.—*November* 5, 1843. For the last few days has had severe pain in right cheek and eye, sometimes so intense as to deprive her of all rest, and even to make her cry aloud. It affects the whole cheek and the eye-lids, but not the temple. There is no general sympathetic disturbance. She had a similar attack several years ago. She has of her own accord applied leeches, and taken purgative medicine.—*Carb. ferri ʒi ter in dies.*—*8th.* Much better.—*Pergat.*—*December* 1. Quite well, and she still continues so.

Case 8. Elspeth Grant, Spinningdale, aged 30.—*November* 14, 1843. Complains of pains in left lower extremity, from behind the trochanter major down to the toes, chiefly in the course of the large nerves, but radiating in different places through the limb, and affecting the muscles, so that at times walking is attended with much pain. She is better when warm and at rest in bed; general health good; catamenia regular; has been complaining more or less for the last two years.—*To have five grs. of cinchona powder with five of carbonate of soda, three times a-day.*—By the 18th December she was perfectly well.

Case 9. Jessy Grant, Dornoch, aged 21.—*March* 19, 1844. Has been very ill for the last week with pain in right side of face, without any known cause. It stretches from the ear down to the upper cervical region, forwards to the cheek and eye, and upwards to the temple. It is at times so excruciating that she has to be forcibly kept in bed, and when thus severe, the eye-lids swell, and the whole part cannot bear to be touched, the eye waters, and saliva flows from the mouth. The left side is not affected, neither is there any pain in the head itself. The attacks usually increase towards evening, but never completely intermit. The cheek seems slightly swollen; no diseased teeth; catamenia regular; pulse not excited; tongue foul.—*R. mass. pil. colocynth. c. ʒss; ol. croton. gtt.ij. M. F. pil. vj. Sumat unam omni nocte. R. hydriod. potass. ℈ij; carb. sodæ ℈iv; vin. sem. colchici ʒiss; solut. mur. morph. ʒiss; aquæ ℥iv. M. Sumat c mag. mane et meridie.*

March 24. No relief to pain, but it is now more periodic, increasing every evening about 5 o'clock, and lasting with awful severity till 3 next morning, when it subsides, without altogether ceasing; no apparent inflammation of affected part.—*Omitt. med.*—*Ordered carb. ferri ʒi 3 times a-day; and to have, in ad-*

dition, to-day and to-morrow, 8 grs. of quinine at 4 P.M. *(an hour before expected increase of pain). Ordered also liq. ammon. gtt.xx in gruel p. r. n. during severity of paroxysm.*

27th. Much better; no severe pain since the night of the 24th; was sensible of relief from the quinine, and takes the iron regularly with good effect; did not take the ammonia at all.—*Continue carb. ferri.—Regulate bowels by castor oil or salts.*

April 4th. No pain for the last 4 or 5 days; the iron is omitted to-day; and up to the date on which I write, she continues well.

CASE 10. Henry Melville, Uppat, aged 54.—*May* 21, 1844. A fortnight ago he was seized with pain in the abdomen and vomiting, followed the same day by violent diarrhœa, attended with griping and tenesmus, and accompanied with much thirst and general fever. Five days ago the purging ceased; immediately after which, most intense pain came on in the right half of the head, the left being quite unaffected. This pain he describes as commencing at the ear, and thence radiating upwards, forwards, backwards, and also downwards to the upper part of the neck; it was at times so severe as to make him cry aloud with agony. It intermitted, but never left him entirely. He has taken some castor oil, and has had two blisters applied, one to the nape, and one to the epigastrium. Since the application of the latter, he has been better, having had no severe pain since yesterday. Tongue very red and raw-looking, where denuded of a kind of thick crust which covers it; no pain on pressing abdomen; pulse regular, weak, and now there is no fever; appetite abolished; considerable thirst; he is feeble, and has the countenance of one suffering from pain. He was ordered as follows:—*R. hydrarg. cum creta gr.i, pulv. ipecac. gr.$\frac{1}{2}$, ext. stramon. gr.$\frac{1}{4}$. M. Pil. ter in dies sumenda.—R. pulv. ipecac. comp. gr.x, carb. sodæ gr.x. M. sig. nocte h. s.;* and under this treatment he gradually recovered.

Remarks.—In the first case the stramonium did not give that relief which it sometimes does in neuralgic cases, while the arsenic acted most beneficially, being particularly indicated by the periodical tendency of the pain. Dr Hunt, in his late work on *Neuralgic Disorders*, as I find from the review of it in *Johnson's Journal*, recommends arsenic principally in cases arising from dyspepsia, from uterine affections with discharge, in periodic headach, and when the pain is intermittent and the system irritable. It should be begun in small doses, 4 or 5 drops, guarded by opium, and gradually increased till the disease give way, or pain at stomach, dryness of throat, griping, &c., supervene. Dr Hunt farther states, that its use should be discontinued whenever the urine begins to deposit the lithate of ammonia.

Cases 2, 3, 5, and 6, particularly illustrate the efficacy of quinine; though in Case 3, part of the benefit may be attributed to the removal of the diseased teeth. It will almost always have a wonderfully beneficial effect when the pain is decidedly intermitting, and when it occurs at a regular hour every day. I prefer Dr Elliotson's plan of giving it in one large dose, 8 or 10 grains, half an hour or an hour before the accession of the paroxysm, to that of exhibiting 1 or 2 grains several times a-day. It sometimes seems to answer better in the form of powder than in pill; and it may or may not be combined with opium. In Case 6, the pains were probably of that description of neuralgic suffering which sometimes precedes the establishment of the menses.

Cases 4 and 7 are almost identical: with reference to the first of these, and also to Case 9, it is to be remarked, that during the severity of the pains, the affected parts became swollen, tender to the touch, and took on the appearance of inflammation. I do not, however, believe that there was real inflammation present. The excitement of the nerves would naturally render the part more sensitive to pressure: indeed we know that in cases of pure nervous pain there is greater tenderness to the slightest touch, than is ever felt in inflammation. This excitement would propagate itself to the vessels of the part, thus causing an increased influx of blood, and hence would arise the redness and swelling. But then, these effects are merely temporary: whenever the pain subsides, they subside too. This is not the case in inflammation. In a case of neuralgia, where heat and redness of the part, with swelling and tenderness on pressure continue during the absence or diminution of the paroxysm, then we have reason to believe that it is caused by, or complicated with, inflammation of the affected nerve; and it should be treated accordingly; but not otherwise. In both the cases mentioned above (4, and 7,) leeches were applied —in one by the patient, in the other by myself; and in neither were they productive of any benefit.

In these three cases, (4, 7, 9,) the carbonate of iron proved of great service. In neuralgic cases that do not present complete intermissions, but only remissions, without inflammatory action, no remedy is more generally useful after the bowels have been well cleared out. Even when it does not succeed in effecting a cure, it very commonly breaks the force of the disease; and it farther seems to have the power of causing the pain to become periodic; and this point being once gained, the quinine treatment can be brought into play.

An outcry of empiricism has been raised against the use both of iron and quinine in neuralgia; but until our knowledge enables us to ascertain the causes of all such cases, and to direct our agents against them, we must be content to use those means, which previous experience has shown to be useful, though we cannot exactly tell the " why or wherefore."

Case 8 seems to be one where rheumatism was complicated with neuralgia, a not unfrequent association of morbid elements: and from overlooking this complication, often arises the difficulty and want of success in the treatment of chronic rheumatism; which is sometimes combined with gouty, sometimes with neuralgic disorder, and sometimes with both. And hence it is necessary to direct our treatment against one or all of these, as the case may be. This point is shortly but admirably insisted on in a review of Bouillaud's work on rheumatism in *Johnson's Journal* for January 1841. The combination of bark and soda is recommended by Mr Morgan in arthritic affections of the eye, and also by Mr Tyrrell in his work on diseases of the eye: the latter states, that frequently they fail if given in large doses, when, if diminished, they act most beneficially. The cinchona has considerable powers both in rheumatism and neuralgia, while the soda tends to destroy that acid prevalence so remarkable in rheumatism and gout, as evidenced by the state of the urine and sweat. Acupuncture might perhaps have been of service in this case, as the pain was relieved by heat.

Case 9 was at first treated by Sir Charles Bell's plan, of small doses of croton oil, together with hydriodate of potassa and colchicum. It was of no avail; and the cure was afterwards effected by carbonate of iron and quinine. The croton oil plan is said to succeed admirably well, where the disease seems to depend on accumulation of sordes or feces in the bowels. Dr Alnatt trusts principally in neuralgia to free purgation with calomel and rhubarb, and croton oil. The latter is thought by some to have some other *modus operandi*, besides its mere purgative qualities. The liquor ammoniæ was recommended in this case, as, while the patient was under treatment, I saw a notice in the *Med.-Chir. Review*, for Jan. 1844, p. 236, where it is stated to be sometimes serviceable during the paroxysm, taken internally, and brushed over the gums so as to cause a flow of saliva.

Case 10 is reported, because it seems to be one where the neuralgic affection was connected with gastro-enteric irritation; and. indeed, I consider that the former stood in the relation of effect to the latter as its cause. I am aware that some, and among these Dr Elliotson, deny that neuralgia ever springs from this source: but I cannot help agreeing with Copland and others, who maintain that irritation may extend from the mucous membrane of the bowels along the organic nerves to the spinal cord, and thence be reflected along the suffering sentient nerve. Why should such irritation not travel along a nerve of sensation, causing neuralgia, as well as along a nerve of motion, producing spasm?

2. Paralysis of Portio Dura.

Case 1. *November* 28, 1843. George Reid, aged about 50; two months ago, after working out on a cold windy day, became sensible of impaired power of moving the right side of his face, without any feeling of pain. The right half of face and brow is now quite paralysed; he cannot wrinkle the right half of the forehead; the eyelids are always open; the cheek hangs down, is puffed out and in during each act of respiration, and, when eating on the right side of his mouth, the bolus of food gets between the teeth and the cheek, whence he cannot remove it without the aid of his finger; he is unable to whistle, but his speech is not affected; there is no loss of sensation, no pain in the head, nor other cerebral symptom; and his general health is good. He states, on the authority of his wife, that sometimes when asleep the eye closes. Blisters and other remedies were ordered, and I saw no more of him till the 19th March 1844, when he presented himself very considerably better; he could now close the right eye, but he was still unable to whistle, as the right half of the lips could not yet be accurately brought together. Now, however, instead of the cheek hanging loose and powerless as at first, it (particularly the angle of the mouth) was a good deal drawn up towards the ear.

CASE 2 occurred towards the end of June last; the subject of it was a mason, who worked at his trade all day with a cold wet wind beating on his right cheek; next day, this cheek and the orbicularis palpebrarum of the same side were paralysed, exactly as in Reid's case, the face being drawn to the opposite side.

Remarks.—These were instances of paralysis of the portio dura, an affection popularly termed " blight," which is well illustrated by Dr Marshall Hall. The first point, as this author states, was to determine whether the paralysis arose from cerebral disease, or from an affection of the nerve, and if the latter, whether this affection was situated within or without the cranium. The points of diagnosis given by Hall (*Lancet* for March 30, 1844) are the following: if it had arisen from disease of the brain, there would probably have been more extensive hemiplegia; and, as he and Andral have shown, the eyelids could be closed; the tongue would also probably be drawn to a side when protruded. Again, if the affection had been seated in the portio dura within the cranium, the portio mollis (from the close contiguity of the two nerves) would be also involved, and there would have been deafness. The disease was therefore simple paralysis (from cold) of the seventh nerve, distributed to the side of the face.

Case 1 farther supports Hall's position, that the first effect of cold on the nervous system is diminished power—paralysis; then after some time follows increased power—undue action. The cheek, from being loose and powerless, became drawn up and retracted.

How beautifully, too, do such cases support Sir Charles Bell's great discovery; cases wherein disease, more subtle than the knife of the anatomist, separates the motor from the sensitive nerve, affecting one without the other! And with such proofs of this great truth presented to us by nature herself, how needless, and therefore how culpable are those repeated vivisections to show the the same thing—experiments repeated even the other day in France by M. Longet, to prove what nobody now-a-days thinks of doubting!

3. DIABETES.

William Murray, Rogart, aged 22, came under my care in June 1844. His is the first case of diabetes which I have seen in this district, and I mention it here merely for the sake of noticing one or two points connected with it.

1st, The patient himself attributed his illness to his being engaged in the hills as a cattle herd, and drinking large quantities of mossy water stagnant in the holes whence peats had been cut out.

2d, Though he passed very nearly four Scotch pints of urine in the twenty-four hours, of density 1048, yet his appetite never was excessive.

3d, The urine contained a great deal of sugar, as proved by the following mode of testing it; a mode founded on the same fact as M.

Trommer's method by sulphate of copper, viz., the property possessed by sugar of deoxidating some metallic oxides. On boiling in a test tube, equal quantities of the urine and a pretty strong solution of the bichromate of potassa, with the addition of a few drops of dilute sulphuric acid, it became of a dark greenish blue colour.

The sulphuric acid first separates the potassa from the chromic acid, then, on boiling, the sugar in the urine removes part of the oxygen from this, converting it into the bluish green oxide of chrome. This is a delicate test, easily applied, and requiring but little time for its performance. If the urine contains no sugar, the change of colour does not take place.

ARTICLE IV.—*Notice of Three Children at a Birth.* By ROBERT ANNAN, Esq., *Surgeon, Kinross.*

Mrs S., robust, of ordinary height, the wife of a manufacturer in Kinross, aged about 38, the mother of seven children, was taken in labour, about 5 P.M., on the 16th of April 1844. From her uncommon size, and having had twins at her previous confinement, the labour had been looked forward to with some anxiety. About 12 P.M., she was delivered of a female child, of full size. A ligature being passed on the cord (and the mother fully anticipating a second child), the head of another, and feet of a third child were found presenting. As the head had advanced considerably, no time was lost in pushing back the feet, and in rather less than fifteen minutes a boy, a little less in size than the first, was born. The third, a girl of full size, followed (footling) in about twenty minutes. The placenta (which I regret was not preserved), soon came away, in one mass, the uterine membranes being common to the whole; although, from the appearances presented, I doubt not that injection would have shown little, if any communication among the placental vessels of the three children. The mother has been able to nurse one of the children. The three are now alive and well.

In many systematic works, it is stated that plurality of children in utero, cannot be positively ascertained previous to actual labour. In the present case, the mother had, for weeks previous, no doubt on the subject; and in another case, which I attended about six years ago, the mother, an intelligent individual, minutely described the separate movements of twin children, at least two months previous to the birth.

PART SECOND.

REVIEWS.

The Principles of Surgery. By James Miller, F.R.S.E., F.R.C.S.E., *Professor of Surgery in the University of Edinburgh, Surgeon to the Royal Infirmary, &c. &c.* Edinburgh, 1844. 12mo. pp. 716.

The object which Mr Miller has had in view, is to exhibit a condensed view of the Principles of Surgery; combining, with soundness of doctrine, such simplicity of arrangement and plainness of illustration, as seemed best calculated to facilitate and direct the labours of the student. We think that he has succeeded in producing such a text-book as he desired, and one well fitted to furnish the student and practitioner with a concise and scientific account of the principles which guide,—or ought to guide,—the practice of modern surgery.

The work is divided into four sections, to which is prefixed an extended historical notice of surgery, from the earliest times to the present day.

The first section is devoted to the consideration of "*Elementary Disease*," which is treated of under the six several heads of "*Perverted action of the blood-vessels;*" "*Perverted action of the nerves;*" "*Perverted action of the absorbents;*" "*Suppuration;*" "*Ulceration;*" and "*Mortification.*"

The term *inflammation* is limited by the author to what is essentially morbid, and is thus defined,—"a perverted condition of the blood and blood-vessels of a part, interrupting its healthful function, and changing its normal structure,—ordinarily attended with redness, pain, heat, and swelling, and inducing more or less disturbance of the general system." It is remarked, that from health to true inflammation, is not one step only, but a gradual transition, and that the exact limits of one or other stage of the inflammatory process cannot be exactly defined. For convenience of discussion, however, it may be subdivided into—1st, Simple Vascular Excitement;—2d, Active Congestion;—and, 3d, True Inflammation. Mr Miller does not regard ulceration as a process affected by the agency of the absorbents; he looks on it as the "product of true inflammation; and thinks that it effects loss of substance, not by absorption, but by a vital softening and disintegration; that on the subsidence of inflammatory action, that of ulceration usually soon follows in its wake; that ulceration is succeeded by granulation, and that by this, healing is obtained." We like the way in which the subject of suppuration is treated; and are especially favourable to what is said in favour of the early opening of acute abscesses. We quote the

Treatment of Acute Abscesses.

"The indications to be fulfilled in the management of acute abscess are, 1. To remove the remaining inflammation. It has been already stated, that, on the formation of matter, the action which caused it usually subsides spontaneously. If not, a few leeches may be applied in the neighbourhood, and the other antiphlogistics are to be continued. 2. To remove all source of excitement from both system and part. The former part of this indication is met by maintenance of the antiphlogistic regimen; in regard to the latter, foreign matter is to be taken away, muscles relaxed, and the part so placed as not to be ruffled or otherwise irritated from without. 3. To encourage the matter's approach to the surface. For this nothing is so effectual as the constant application of hot poultices, frequently renewed, along with maintenance of strict quietude of the part; and at each renewal of the poultices, hot fomentation may be used for some minutes. The hot and moist applications are of use, antiphlogistically, in more effectually mitigating the vascular action which may remain; besides, by favouring relaxation of the texture, they promote the enlargement of the suppurated space—whereby, as we have seen, approach to the surface is effected; tension and undue pressure are also avoided, which otherwise might occur, reinducing vascular action all around. 4. To evacuate the matter by an early and free opening. Abridging nature's effort by artificial means. 5. To subdue the fresh vascular excitement which the infliction of the artificial opening must necessarily induce. Fomentation, poultice, and rest, are still adequate to this. 6. To promote the contraction, filling up, and ultimate closure of the cavity of the abscess.

"The three first indications are not to be long persevered in, ere the fourth is arrived at. Three or four days at the utmost—sometimes only as many hours—will suffice for fomentation and poultice; and then, according to the principles of sound surgery, evacuation should be performed. It is no doubt true that nature herself is indeed able to overtake this result, unaided; and the mode of her operation we have shown. But the completion of that task, often laborious, should seldom if ever be demanded of her in acute abscess; otherwise harm must accrue. 1. Time is unnecessarily wasted. Nature's mode of evacuation is a gradual and tardy process; the plunge of a knife is the work of an instant; and it may happen, not unfrequently, that time is all-important to the patient. 2. An unnecessary amount of pain is endured. Though after suppuration the painful feelings attendant on the inflammatory process usually subside, yet they do not disappear; not unfrequently pain continues tolerably severe, and is not assuaged until, by evacuation of the matter, pressure, tension, and ulcerative action have been effectually removed. The pain of opening is not slight, but it soon passes away; it is but as a very moderate cost of a most valuable purchase. If the suppurated texture be fibrous, osseous, or otherwise unyielding, pain is uniformly aggravated instead of being abated by the formation of pus; and therefore the expediency of early evacuation is still more obvious under such circumstances. 3. Texture is greatly endangered. In the ordinary progress of an acute abscess, favourably situated, the majority of the surrounding parts are pushed aside, condensed, and infiltrated by fibrin and serum, while at one point actual destruction of texture takes place by the disintegrating process of ulceration. But if the natural effort outwards be baulked by resisting texture, as it is almost certain to be in deeply seated abscess, then pressure is increased to a deleterious degree, at other and various points; and those parts which otherwise might have been merely displaced and temporarily altered in structure, now become the prey of an action which is destructive. Cellular tissue is broken up, muscles are separated.

periosteum is detached, bone ulcerates or dies, cavities and canals are opened into, blood-vessels may be perforated, joints may be stiffened or destroyed. Such disaster may occur even when the ulcerative process is gradual and of a normal kind, preceded by its fibrinous effusion; but it may happen that the disintegration becomes unusually rapid, and the boundary of fibrin is transgressed; purulent irruption then takes place into the open and defenceless tissue, and both the extent and rapidity of disaster are fearfully increased. 4. The danger is not only local but general. Such destructive results, as have just been alluded to, cannot occur without involving the system in serious disorder. This would be the case, even supposing the parts so injuriously dealt with of themselves unimportant; but they may be such as to peril existence almost immediately; hæmorrhage may occur from a large artery or vein by ulceration; there may be violent inflammation of an internal serous cavity, or clogging of the air passages, by purulent irruption. It is true that important parts have not only an inherent power of resisting ulceration and other dangers from without, but besides are strengthened by an especial outward defence, as already shown: these will avail to protect, until the abscess have been fairly formed and indicated, giving notice to the surgeon of its formation, and of the time for safe incision having arrived; but if this intimation be neglected, and this opportunity be overlooked, both the intrinsic and adventitious defence will be overcome, and danger and disaster ensue.

"It has long been admitted that open abscesses, inflamed and undergoing ulceration—in fact changed from the condition of abscess, into that of an acute and spreading ulcer—may expose and perforate blood-vessels and other important canals. But the power of unopened abscesses to perform similar ravages would seem to be by many doubted, if not denied, and made an excuse for delay in evacuation. That occult abscesses, however, have such destructive power imparted by circumstances, not only does theory admit as possible, but experience declares as a fact. In deep abscess of the neck, for example, when the pus is bound down by the dense cervical fascia, it is no very uncommon thing, when nature is culpably left to struggle unaided under such adverse circumstances, to find an opening taking place in either the œsophagus or trachea; and recently examples have not been wanting of still greater hazard, by perforation of either the carotid or the internal jugular.

"In former times, *maturation* of an abscess was talked of as an event always to be waited for, and made to precede artificial evacuation. It was held as almost a maxim in surgery that ere the knife could with propriety enter the cavity of the abscess, this should have attained to a certain size, not inconsiderable, and have become quite superficial. Such delay may be suitable enough in the case of suppurated cellular tissue, almost or actually subcutaneous; yet time and pain might both be saved even here. And from what has just been stated, it is very obvious that in all cases where the abscess is either deeply seated or in the immediate vicinity of important parts, to practise delay is just to incur neglect and invite disaster. The general rule, therefore, undoubtedly is, to make an early and free opening in acute abscess; time and texture are saved, and pain and peril avoided. And another general rule, arising out of the preceding, is—that in a truly acute abscess, cure by absorption is not to be calculated on in the treatment." Pp. 184—187.

The subject of ulcers is treated of under a simple and somewhat peculiar arrangement, which we subjoin.

Classification of Ulcers.

"The following will be found to include the great majority of ulcers. Under one or other of the varieties every example may be arranged; or if the exact type be not there, it will be found somewhere intermediate, and easily deducible therefrom. 1. The Simple Purulent, or Healthy Sore. 2. The Weak. 3. The Scrofulous. 4. The Indolent. 5. The Irritable. 6. The Inflamed.

7. The Sloughing. 8. The Phagedænic. 9. The Sloughing Phagedæna." P. 221.

There are some good remarks upon *Erysipelas;* the phlegmonous form is justly placed in bold relief from the other varieties, and the propriety of early incision, *before the formation of matter*, is strongly advocated.

In Section II, "*Perverted vascular action in certain tissues*," is treated of under eight heads, viz:—"*Perverted vascular action in the integuments;*" "*Perverted vascular action occurring in bone;*" "*Diseases of the Joints;*" "*Diseases of the Arteries;*" "*Affections of the Veins;*" "*Hemorrhage;*" "*Affections of the Lymphatics;*" and "*Affections of the Nerves.*" The chapter upon Diseases of the Joints, is very full and good; what is said on *Aneurism* is plain and practical. In speaking of *Phlebitis*, Mr Miller points out the distinction between the fibrinous and suppurative forms of the disease, and the limited and diffuse; which is of extreme importance, both as regards prognosis and treatment.

We like the following remarks upon the

TREATMENT OF ANEURISM BY PRESSURE WITHOUT INCISION.

> "*Pressure, without incision.*—In ancient times, the surgeon who was afraid to cut into the aneurism, and take his chance of arresting the flow of blood, had recourse to direct and energetic compression of the part, with the hope of cure. The name of Guatanni is chiefly associated with the practice. Local sloughing, suppuration, or ulceration, with severe constitutional disturbance, yet with an unclosed artery and aneurism, resulted more frequently than the cure. Subsequently to the establishment of the Hunterian operation, its principle was extended to the mode of treatment by pressure; this being applied, not to the tumour itself, nor in its immediate vicinity, but at some distance; at a part such as would be selected for Hunterian deligation, in the hope of the arterial tissue there being in a sound condition. This method was made trial of by Dubois, A. Cooper, Blizard, &c.; but with no satisfactory issue. The pressure was continued and severe; their object being to keep the tube close and impervious at that point, and by plastic deposit to obtain its complete consolidation. The result was, the occurrence of great pain and constitutional disturbance; followed by inflammation, ulceration, or sloughing of the compressed parts; exposing, or perhaps including, the vessel. The practice found no favour with the general profession. Lately, however, the treatment by pressure has been revived, in a more scientific form, and with a better success; conducted rather as if itself were not the agent of cure, but only the means whereby the spontaneous cure may be originated and favoured. The pressure is made at a Hunterian site, as before; but it is neither constant nor severe. By means of a compressor, such as invented by Crampton and Signoroni, or any other suitable apparatus, a moderate degree of pressure is applied to the vessel at a point where its coats may be expected to be sound, and consequently not prone to ulcerate from slight causes. This is maintained, so long as it can be conveniently borne by the patient; but no longer. So soon as the uneasy sensations become at all intense, with swelling and numbness of the limb, and throbbing in the part, the pressure is either slackened, or altogether removed. After a time, the parts having recovered, it is re-applied; again it is removed; and thus, by its occasional and modified use, the disasters formerly attendant on the treatment by pressure may be altogether avoided. At the same time, the circulation in and near the aneurism is decidedly moderated, so as to favour solidification. The tumour is not only arrested in its growth, but begins to

diminish; its pulsation is less, and its dimensions contract; it feels harder and less compressible; ultimately, pulsation wholly disappears, and induration is complete; absorption then advances, and the obliterative cure is obtained, with or without a pervious condition of the vessel. But the pressure is not trusted to alone. The same preparatory treatment is necessary as before the operation by ligature; and, throughout the whole period of treatment, absolute repose with recumbency is maintained, as well as antiphlogistic regimen, and all other means likely to favour the desired beneficial change. Also, the limb below the compressed point must be uniformly and equably supported by bandaging, lest passive congestion and œdema supervene; and this pressure may from time to time be somewhat increased on that part of the limb which includes the aneurismal tumour. Let no haste be indulged in. The process is necessarily one of weeks, not of days; gradual, not sudden; interrupted, not continuously progressive. The pressure requires to be neither great nor constant, for we do not desire obliteration, even temporary, of the arterial tube there; it is sufficient to moderate, not essential to obstruct, the flow. And only by a constant remembrance that such are the principles of cure by this means, will the pressure be so leisurely and prudently conducted, as to ensure avoidance of the disaster to which compression is liable. The advantage of such a mode of treatment, when properly conducted, is immunity from ulceration and hæmorrhage; the disadvantages are, the protracted period, and ultimate uncertainty, of cure. If improperly conducted, it is in every point of view inferior to the ligature; less certain of cure, and even more certain of danger at the selected part of the vessel. Even skilfully managed, it is obviously less capable of general application; there being not a few systems possessed of an intolerance of pressure, even when modified and occasional. The improved revival, however, is as yet but in its infancy. In the hands of Liston, Cusack, Hutton, and others, it has already succeeded. But a wider experience is still required, ere surgical opinion can be at rest upon the question. The leading points of the system, it may be again stated, are:—the pressure is at some distance from the tumour, moderate, and only occasional; it is not necessary, and it is not our object, to obliterate the vessel at the compressed point; in other respects the same treatment is followed out, regarding both part and system, as in the favouring of spontaneous cure without any surgical interference." P. 457-459.

Hemorrhage is pretty fully noticed; the views of the author regarding the hemorrhagic diathesis are somewhat peculiar to himself, as the readers of this Journal are aware, from an interesting paper upon that subject having appeared from his pen, in our number for July 1844.

Section III treats of perverted nutrition or tumours. The subject is pretty fully taken up. We quote the author's arrangement, as it is somewhat peculiar.

CLASSIFICATION OF TUMOURS.

1. Benign tumours; 2. Malignant tumours; 3. Encysted tumours; 4. Tumours of the integument; 5. Tumours of mucous membrane; 6. Tumours of nerve; 7. Tumours of bone.

The indiscriminate attempts of some to discuss all tumours, is severely and justly reprobated, and the danger of degeneracy is shown to be an important argument in favour of the removal of genuine tumours, even though long malignant. Tumours of bone " are included in the following classification:—*Exostosis*,—*Osteoma*,—*Enchondroma*, simple; osteosarcoma, at first simple, but tending to degeneracy and malignancy; osteo-cephaloma, osteo-carcinoma, malignant; osteoaneurism, troublesome and tending to disaster, sometimes associated with malignant structure; spina ventosa, analogous to the encysted tumour of the soft parts. We quote the

Diagnosis between Osteo-Sarcoma, and Osteo-Cephaloma.

"*Diagnosis.*—Practically, it is of the utmost importance, that we should be able to distinguish between osteosarcoma and osteocephaloma. Each is of not unfrequent occurrence; and each requires distinct rules of treatment. The most common sites of each are the maxillary bones, lower and upper; and next, the long bones of the extremities, especially near their articulating surfaces. But the flat bones, as the scapula, cranium, and pelvis, are by no means exempt. The prominent points of difference are the following; sufficiently distinct to guard from error the experienced and careful. In the degenerating tumours, however, it is often not easy to determine, whether the simple or malignant structure yet predominates. 1. The osteosarcoma is seldom found prior to the adult age; the osteocephaloma may occur at any period, and is as frequent in the adolescent as in the adult. 2. The osteosarcoma is usually attributable, in its origin, to external injury. The osteocephaloma is more frequently of spontaneous origin. 3. The osteosarcoma is slow and gradual, and more or less uniform, in its growth. The osteocephaloma is much more rapid, and tends to enlarge unequally; growing chiefly at those points where there is the least mechanical resistance. 4. The osteosarcoma usually is almost, and sometimes altogether painless, unless when some nervous trunk or plexus is compressed. Osteocephaloma, from the first, is attended with severe lancinating pain. 5. Osteosarcoma is firm, and yields but little to the touch; even rude pressure is scarcely painful; an obscure crepitus is often felt. Osteocephaloma is soft and elastic, from an early period, the shell of bone and all other remains of the original texture soon becoming merged in the medullary formation; it is elastic, and affords no crepitus—when an original tumour; the pain is aggravated by even slight compression. 6. Osteosarcoma entails but little disorder of the general health. Osteocephaloma is attended with much cachexy, even from the beginning. 7. A casual abrasion of the skin, or mucous membrane, investing an osteosarcoma, shows a simple character; and may be brought to heal, under the ordinary treatment. A similar breach, in the surface of the osteocephaloma, does not heal, widens more and more, and becomes the site of a fungoid protrusion. 8. The osteosarcoma does not invade the neighbouring tissues, but pushes them aside by its expansion, and abides within the bone in which it was first developed. In the upper jaw, for example, it remains limited to the expanded confines of the antrum. And, at those parts where the bony and even membranous parietes are deficient, there is no ulceration followed by fungous protrusion; but only a moderate increase of growth, in a lobulated form, with or without rawness of the surface. The osteocephaloma, on the other hand, pushes no texture much aside, but early involves all: the antrum is soon passed beyond; and the base of the cranium is affected, even before much appearance has been made externally. Wherever deficiency of the investing texture occurs, ulceration and fungoid growth are sure to follow. 9. The osteosarcoma long continues in the occult condition; breach of the surface, when it does occur, does not extend rapidly, and evinces no malignancy of character; the discharge is purulent, or puriform, not profuse; there is no tendency to hæmorrhage, unless by accidental injury, and then it is slight and easily restrained by pressure. The osteocephaloma soon passes from the occult to the open state. The ulcer spreads, and is obviously the seat of malignant structure and action; the discharge is profuse, fœtid, and bloody; hæmorrhage is not unlikely, of spontaneous origin, and little amenable to control. 10. Osteosarcoma does not spread, either by contiguity in the tissues, or remotely by the lymphatics. Osteocephaloma does both; at an early period, the lymphatics are manifestly and hopelessly involved.

"Such are the striking differences between the two tumours. The distinction is equally great in the treatment applicable to each. If the tumour be an osteocephaloma, operation is warrantable only at a very early period; when there is a certainty that the whole of the affected parts, and something more, can be wholly removed; and when there is good reason to hope, that the constitution is not much and irreparably involved. An osteosarcoma, on the other hand, admits of operation till a late period; its extirpation may be fearlessly attempted, with a good hope of success, even after the tumour has attained to an enormous bulk; and experience has fully shown, that though the operation may be bloody and severe, yet it seldom terminates but in a fortunate issue. In regard to prognosis also, the tumours widely differ. After removal of an osteocephaloma, even under favourable circumstances, we can never be certain of immunity from return. When a genuine osteosarcoma, on the contrary, has been taken away, the mind may be at ease; for return is very improbable, even when the operation has been performed at an advanced age of both tumour and patient." Pp. 583-590.

Injuries form the subject of Section IV. They are discussed under the seven heads of "*Wounds;*" "*Burns and Scalds;*" "*The Effects of Cold;*" "*Fracture;*" "*Dislocation;*" "*Spasm and Rupture of muscle and tendon;*" and lastly, "*Bruise.*"

Simplicity in the management of wounds is strongly advocated. The remarks upon the modes in which they heal, are very interesting. In speaking of the treatment of burns and scalds, the author's object is to apply the common principles of surgery, and to throw into discredit that empiricism into which even regular and well informed practitioners are apt, inadvertently, to fall, in the treatment of this class of injuries. Sprains and bruises are also rescued from the domain of quackery, and the principles of common sense and good surgery applied to their treatment. The remarks upon the use of the starch bandage in the treatment of fractures, will well repay perusal.

We have given our readers a rapid sketch of the contents of Mr Miller's admirable volume, abstaining from all commentary and criticism, that we might be able to transfer to our pages some passages from the work, which, with our constant pressure of matter, both original and selected, has not been easy. In conclusion, we have great pleasure in recommending Professor Miller's "Principles of Surgery," as a work full of sound information, and one quite on a level with modern science.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

On the Fibrin contained in the Animal Fluids, the mode in which it coagulates, and the transformations which it undergoes. By Andrew Buchanan, M.D., Professor of the Institutes of Medicine, University of Glasgow.

The principal animal fluids, which contain fibrin, are the Blood; the Lymph of the lymphatic vessels; the Liquid of Blisters; the Coagulable Lymph, as it is usually called, met with under circumstances to be mentioned hereafter; and lastly, the liquid of the properties of which I had the honour to read to the Society an account in the year 1836, formed by the mixture of the serum of the blood with serum from cavities lined by serous membranes.

1. The fibrin, existing in these liquids, is usually held to exist in them in a state of solution; only passing to the solid state after they are withdrawn from the body, during coagulation. I believe that opinion to be erroneous; and the first object of this paper is to show, that the fibrin does not exist in those liquids in the state of solution, but exists while yet within the body, already solidified, and organized in the form of granules and vesicles; and that the process of coagulation consists, simply, in the aggregation of these minute granules and vesicles into a mass visible by the naked eye. This can only be demonstrated by observing the coagulable liquids, under the microscope, before, during, and after coagulation.

2. The second object of this paper is to show, that the fibrinous granules and vesicles contained in these coagulable liquids are probably identical with the cell-germs and cells out of which, according to the doctrine of Schleiden and Schwann, all the tissues of the body are developed.

3. My third object is to show in what way the fibrinous granules and vesicles are transformed into corpuscles of purulent matter; and that most probably they are converted also by an analogous process into the red corpuscles of the blood.

4. I shall last of all offer some conjectures as to the mode in which these granules and vesicles originate in the serous fluids.

I do not intend to discuss these subjects in the order in which they are here mentioned, but merely point them out as those, on which the following observations upon the serous fluids containing fibrin are chiefly intended to bear.

Blister Liquid.—Whence does the liquid of blisters proceed? As it is formed instantaneously in cases of scalding, it might be supposed to proceed from ruptured vessels, but there is no reason to think that any vessels are ruptured in the process of vesication. The liquid proceeds, in all likelihood, almost entirely from the capillary vessels, which are ramified so plentifully on the surface of the skin, and which, when they are distended with blood in inflammation, produce similar vesications. Nevertheless, as the liquid of blisters is not quite identical with the serum of the blood, it is not improbable that a small portion of it may proceed from the large lymphatic vessels on the surface, and from the ruptured ducts of the sudoriparous and sebaceous glands. The phenomena exhibited by the blister liquid at different periods after effusion, has not, so far as I know, attracted the attention of physiologists. The liquid portion of it has been frequently subjected to chemical analysis, but of the more interesting coagulable portion no notice has been taken. When the blister liquid is drawn off, soon after being effused, it yields a coagulum so small, that it may readily escape observation; when it is not drawn off till later, the coagulum becomes more abundant, and generally the more advanced the period of drawing it off, the more abundant is the coagulum. I once drew off, in a case of burn, about 4 oz. of serum from some large vesications several days old. The serum was perfectly liquid as it flowed into the cup in which I received it; and also some time afterwards, when I transferred it from the cup into a bottle; but on examining it soon thereafter, it had formed a firm coagulum, occupying at first the whole extent of the liquid, but gradually contracting in size. It may be affirmed, then, in general, that if the vesicated skin has not been so much injured as to interfere with its healthy actions, the blister-liquid always yields a coagulum of fibrin, which becomes more and more abundant, as the blister is the longer unbroken, up to the period when coagulation takes place within the blister itself. This period occurs sooner or later, according to the size of the blister, the vigour of the constitution, and probably other circumstances not yet ascertained. The coagulation is sometimes so complete, after the application of a blister during twelve hours, that the liquid drawn off yields little or no fibrin; and sometimes, as in the case just mentioned, the fibrin is not coagulated when the blister is several days old. We have thus the process of coagulation taking place in circumstances peculiarly favourable for determining its nature, for we can examine the liquid before, during, and after coagulation, and thus witness all the steps of the process. When we examine the liquid under the microscope, immediately after being withdrawn from the blister, or shortly thereafter, we find it to contain transparent vesicles floating free in the liquid. These vesicles are pretty uniform in size, are nucleolated, and resemble very closely the corpuscles of the blood. Their number varies in different cases. When they are very numerous, they speedily attract each other, and run together into a mass of fibrin. This mass is at first distinctly seen to be made up of a congeries of the vesicular corpuscles, but it continues, probably under the influence of the same attractive power, to diminish in size, and some of the constituent corpuscles contracting more than others, their appearance is variously altered and disguised. The process of coagulation, then, seems to be a very simple one, consisting in the aggregation of the fibrinous globules and granules diffused through the liquid, by a force perhaps little different from cohesive attraction. The observations recorded below, lead to the same conclusion as to the nature of the process in other instances. In all probability, the reason why the fibrinous globules do not coagulate within the vessels and cavities of the body is, that they are kept in equilibrium by the attraction of the contiguous tissues, which being themselves made up of similar corpuscles, probably possess a similar attractive power; but when the coagulable liquids are withdrawn from the body, the antagonist power is destroyed, and the fibrinous globules, under the influence of mutual attraction, are aggregated into a mass. If the coagulum first perceived in the blister liquid be removed immediately, free globules will still be observed in the liquid, and by and by a fresh coagulum will form; and thus several successive coagulations may take place, before the liquid is seen altogether deprived of its globules. After complete coagulation, the primary vesicles are no longer observed, their cavities being obliterated, and the membranous parietes converted into short solid filaments, inextricably interwoven with each other. On the first concretion of the fibrinous mass, it is voluminous, extending over the whole space occupied by the constituent vesicles and their interstices. It soon, however, contracts to a smaller size, and the rapidity of the contraction is much accelerated by mechanical agitation, as by drawing the coagulum out of the liquid. After contraction, it has lost its transparency, and has the form of an opaque white membrane or thicker mass. In a thin shred of this mass placed under the microscope, the vesicles, of which it at first consisted, are found to have disappeared, leaving a homogeneous structure, of which, from its density, the constituent filaments are with difficulty perceived. Sometimes again distinct vesicles are seen here and there imbedded in the coagulated mass. The mode of formation of the reticular tissues, or those which have a basis of cellular membrane, does not appear to me to be, as it has been described by Schwann, by the division of vesicles elongated into filaments. No such process of division is ever seen in the fibrinous vesicles, while every mass of fibrin, from the moment of its formation, seems to affect the reticular form. Instead of this reticular form depending upon the arrangement of the parts of single vesicles, it depends on the arrangement of the vesicles in relation to each other, which, whether they retain their vesicular shape, or what more generally happens, become filamentous, always affect a reticular arrangement. This arrangement is less easily seen under the microscope than with the naked eye. The coagulum of the blister liquid does not show it so distinctly as a loose coagulum, such as that of blood diluted with water before coagulation, or the coagulum which forms in the mixture of the serum of the blood with that of the serous cavities. The tendency which the fibrinous granules and vesicles have to transform themselves into cellular membrane, appears to me to render it probable, that they are identical with the cell-germs and cells out of which the tissues of the body are developed. According to Dr Barry, these cells are not distinguishable under the microscope from blood-corpuscles, a character which applies exactly to the vesicles of the blister-liquid. When the actions going on upon the vesicated surface are of a healthy character, as soon as the fibrinous corpuscles are sufficiently abundant, they concrete into a coagulum. This coagulum hardens into a crust or scab, under the protection of which the epidermis is reproduced, and then the crust falls off. When, on the other hand, the actions are of an unhealthy character, whether from the severity of the original injury, or from the rupture of the blister, and the consequent irritation by the atmospheric air of the raw surface, the fibrinous globules gradually change their colour, and are converted into pus globules. This change seems to be effected by the liquid contained within the membranous vesicles becoming more and more opaque, and as this change of colour takes place, the globules gradually lose their attractive power over each other; hence the globules of laudable pus, when examined under the microscope, appear perfectly distinct, and have no tendency to aggregation. There are, however, upon all inflamed surfaces, globules, and granules, in every stage of transition, from the transparent fibrinous, to the opaque purulent state. Many of these are more or less adherent, and constitute the flakes and layers of coagulable lymph observed upon inflamed surfaces. When these are examined under the microscope, they are found to consist of corpuscles of various sizes irregularly aggregated, and hence seems to have sprung the notion entertained by some pathologists, that pus globules are formed by the disintegration of globules of fibrin, or of blood; the former of which, from an erroneous theory (as appears to me,) of the mode in which they are produced, have been named "*exudation globules.*" This notion is best refuted by observing the steps of the process described above; and also by the size of the great majority of the globules of laudable pus, thus originating, being equal or little inferior to that of the blood globules, or of those of fibrin. With respect to the process by which the transparent liquid within the fibrinous capsules is converted into an opaque one, I believe it to be analogous to the process by which serum exposed to the air is converted into an opaque liquid, which collects at the bottom, and which resembles pus in all its sensible qualities, but consists of irregular flocks instead of globules; and it is not improbable, that some of the less healthy forms of pus which are more flocculent than globular, originate in a similar way within the body. I believe that pus is never formed, as many maintain, in inflamed vessels and secreted from them. The formation of pus is most distinctly observed in blisters upon the skin, in which we can watch the whole steps of the process, by which effused serum is converted into pus. The same gradual conversion of effused serum into pus is observed in inflamed serous cavities. It may also be observed in that clear liquid which exudes from ulcerated surfaces, and which speedily thickens into pus.

Coagulable Lymph.—The fluid named coagulable lymph, is, probably, in every respect similar to the blister liquid, except in this, that in the latter, one of the two serous elements necessary for the development of the fibrinous corpuscles, is effused in a greatly disproportionate quantity, and hence the production of organised fibrin goes on comparatively slowly. In coagulable lymph, on the other hand, the two elements are effused in exactly the necessary proportions. Organized fibrin is formed therefore with great rapidity, and hence the utility of coagulable lymph in repairing solutions of continuity, and loss of substance of the body. The fibrinous globules developed in coagulable lymph, are either entirely converted into new tissues, as in wounds which heal by the first intention, or simple fractures of the bones; or they are partly converted into granulations and partly into pus, as in healing ulcers and abscesses; or they may be entirely changed into pus of various character, by the process described above. The corpuscles observed in coagulable lymph, vary more in size, and are less regular in form than those of the blister liquid.

Lymph of the Lymphatic System.—All those who have observed the lymph drawn from the thoracic duct and lymphatic vessels, describe it as possessing the property of spontaneous coagulability. Gerber represents it as not being coagulable in the extreme lymphatic vessels, and only to acquire that property as it passes towards the heart.

The account given of its appearance under the microscope varies; but most observers agree that it contains corpuscles more minute than the corpuscles of the blood. There is much reason to think, that the description which has been given of it, by one of the most eminent physiologists of the present day, (see *Müller's Physiology;* Translation, p. 259,) ought to be applied to the coagulable lymph from a small sinus, rather than to the lymph from the lymphatic vessels. Such a sinus might readily form after a wound, and would secrete a fluid which, in its first stage, would have all the characters of coagulable lymph ascribed to it—while our knowledge of the pathological processes that take place in divided vessels, whether blood-vessels or lymph-vessels, is contrary to the supposition that these vessels should continue with patent orifices, after the rest of the wound had closed, pouring out their natural contents. Nothing short of the injection of the lymph-vessels after death, and the demonstration of their open mouths, could establish so improbable a supposition.

Blood.—It is well known that blood soon after being drawn coagulates, and thereafter separates into two parts, the coagulum or solid part, and the serum or liquid part. The coagulum consists chiefly of the red blood corpuscles, but it is universally acknowledged to contain also a portion of colourless fibrin to which the coagulated mass chiefly owes its tenacity. What are the grounds on which this opinion rests? In the first place, as the lymph is continually pouring into the blood from the thoracic duct, the colourless fibrin which the lymph is known to contain must be introduced into the blood. In the second place, in cases of inflammatory disease, and certain other circumstances, the transparent fibrin coagulates separately from the red corpuscles, the latter constituting the lower portion of the coagulated mass, while the former constitutes the upper layer, commonly called the buffy coat of the blood. It may, however, be objected that this is a phenomenon of disease, and that we must show the blood to be similarly constituted in the healthy state. The most conclusive argument then in behalf of the opinion in question is derived from the phenomena observed when liquid blood, as it flows from the arm, is mingled with about eight volumes of serum of blood, when the red corpuscles fall to the bottom, forming a dense layer, and the transparent portion, much more voluminous, occupies the upper part. The same phenomena are seen in a still more beautiful and convincing form, when the transparent fibrin is separated by the filter in a state of perfect purity. I have repeatedly obtained it in this form, although I regret to be obliged to add, that the experiment much more frequently fails than succeeds, and that I have been quite unable to determine on what circumstances the success or failure depends. In what state does the transparent fibrin exist in the circulating blood? The generally received opinion is, that it exists in a state of solution in the serum, the two together constituting what has been named of late years "*the liquor sanguinis;*" and that the fibrin only passes to the solid state after the blood is drawn, during the process of coagulation. If this be true, it follows as a consequence, that the two parts into which the blood separates spontaneously after being drawn, are not the same as those of which the blood is seen to consist, by the microscope, when it is circulating in the blood-vessels; for the fibrin, which, in the latter circumstances, is united to the solid portion, is, in the former circumstances, dissolved in the liquid portion. It appears to me that the whole of this doctrine is erroneous. I believe the solid and liquid portions, of which the circulating blood is seen to consist, under the microscope, to be the very same as the solid and liquid portions into which the blood, after being drawn, spontaneously separates; that the whole coagulum, or part which affects the solid form after being drawn, existed previously within the blood-vessels in the solid form; that during the coagulation of the blood, there is no mysterious precipitation of a solid previously held in solution, but that the process of coagulation consists simply here as in the cases already mentioned, in the aggregation of granules and globules previously existing diffused through the serous liquid, but not cohering; and that the only peculiarity in the coagulation of the blood consists in this, that some of the solid corpuscles, by the aggregation of which the coagulum is formed, are red, while others are transparent, and that the latter possess a much higher cohesive power than the former. It follows, if these opinions be correct, that the term "*liquor sanguinis*" should be banished from physiology, as conveying a whole series of erroneous ideas as to the constitution of the blood. In what way can the transparent fibrin which exists in coagulated blood, be shown to exist in the solid form in liquid blood? It may be thought by many that this is a very simple matter to determine; that we have only to put liquid blood under the microscope, when we shall at once be able to distinguish the red from the transparent corpuscles. But all who are in the habit of examining with the microscope the corpuscles in the animal fluids, know that it is only when they are congregated in masses that their colour is perceptible, so that we can determine whether they are red or transparent: but that, when single globules are observed, they are only distinguishable from the surrounding transparent liquid, by their refractive power, which gives to them all the same solar yellow colour, varying in tint according to the intensity of the light under which they are seen. Thus it is, that the transparent corpuscles of blister liquid are in no way distinguishable from red blood corpuscles introduced into it. Professor Rainy of Glasgow, discovered some years ago the interesting fact, that the fibrinous coagulum which separates from the blood in cases of aneurism, and occupies a large part of the aneurismal dilatations of the artery, is pervaded by numerous tubes or channels, having an arborescent appearance. These are of such a size, that Dr Rainy succeeded in introducing a fine needle into one of the larger trunks, thus proving the existence of a cavity in their interior.

Origin of the Corpuscles contained in the Animal Fluids.—The origin of the granules and vesicles contained in the animal fluids, is the only subject announced at the commencement of this paper, on which a few observations are still required.

1. *Not from blood-vessels.*—Some physiologists have supposed the fibrinous corpuscles found in effused serous fluids to proceed from the blood-vessels, and have therefore named them "exudation corpuscles." The large size of the corpuscles found in the blister liquid, makes it as unlikely, that they should pass through pores in the parietes of the vessels, as the red blood corpuscles

which are held incapable of so transuding: and it is not improbable, that there is an attractive power in the tissues which retains the fibrinous particles, even when of smaller size, and thus prevents transudation.

2. *Originate in situations where observed.*—To me it appears much more probable that all the fibrinous corpuscles in the animal fluids, whether contained in cavities or in vessels, originate in the situations where they are observed. This seems to follow as a necessary consequence from the proofs which have been mentioned above, of the power which these corpuscles have of transforming themselves into tissues; for such transformations prove the identity of these corpuscles with the cell-germs and cells, out of which all the tissues of the body are developed. I formerly mentioned the complete resemblance which the vesicles of the blister liquid have to the blood globules; now, according to the researches of Dr Barry, all the tissues of the body originate in corpuscles not distinguishable under the microscope from blood globules. It can scarcely therefore, be doubted that the fibrinous corpuscles observed in the animal fluids originate in the situations in which they are observed; where they serve, in the first instance, for the development of the tissues, and subsequently for their redintegration after injury.

3. *Doctrines of Schleiden and Schwann.*—According to Schleiden, the cell-germs of vegetables originate in the interior of the cells. The only instance in which they are observed to be generated on the exterior, is in the formation of the cambium, when they originate in the plastic liquid interposed between the bark and the wood. Now, according to Schwann, the cell-germs of animals always originate in a plastic liquid of this kind, which he names the "cyto-blastema." This plastic liquid he holds to exist both within the cells, and exterior to them, and that in whatever situation the cell-germs are produced, their origin is due to the same action of the plastic liquid. According to this view, we must look for the origin of the fibrinous corpuscles we have been describing, to the liquids in which they swim.

4. *Nature of plastic liquid.*—All organized bodies are developed out of a liquid which presents no visible traces of organization. The first step in this mysterious process appears to be the development in the liquid of granules; next these granules pass into vesicles or cells; and lastly, these cells are transformed into the tissues of the vegetable and animal body. I have described both to-night and on a former occasion, a liquid derived from the human body possessing these characters. It presents at first no traces of organization, but fibrinous granules, vesicles, and filaments are gradually developed in it. I shall now endeavour to show, that a liquid similarly constituted probably exists in all parts of the body, and is therefore to be regarded as the cyto-blastema, or plastic liquid, which gives origin to the cell-germs and cells, out of which all the tissues of the body are developed.

5. *Origin of, in cavities of body.*—The liquid in which the fibrinous corpuscles have been observed to originate, is a mixture of the serum of the blood with the serum of the serous cavities. The latter differs from the former in chemical composition and qualities.[1] It consists, most probably, of the serum of the blood, effused from the capillary blood-vessels into the interstitial cells of the serous tissue, and there modified by serving for the nutrition of the serous membranes. Now, the serous membranes have a basis of gelatin, and are, therefore, similar in constitution to the great majority of the tissues of the body. In all the gelatinous tissues, therefore, the process of nutrition must produce a similar modification of the serum of the blood; and we shall thus have all over the body a liquid produced analogous to the serum of the serous cavities. If, then, the serum of the blood is only effused in the quantity necessary for the purpose of nutrition, it will all undergo the same change, and the modified serous liquid will be absorbed by the blood-vessels and lymphatics, to make way for the portion next to be effused. When, however, as in early life, the serum of the blood is poured out in greater abundance than is necessary for the nutritive ac-

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[1] Dr R. D. Thomson.

tions, the excess of it will mingle with the modified liquid in the cavities; and just as in the artificial mixture of these liquids, we shall have a development of cell-germs and cells. Hence the activity of development in early life, and why it keeps pace with the activity of digestion and sanguification; and, as these functions become less active, declines in the same proportion. Hence also the reason why it continues constantly in an active state on the surface of the skin, forming the cells which flatten into the scales of the epidermis, because the effused serum is here always in excess, being only upon one side in contact with a tissue capable of acting upon it, and modifying its composition. Hence also the renewed activity of this function on the occurrence of inflammation, when the increased afflux of blood causes a copious effusion of serum into the cells of the inflamed tissue.

6. *Origin of, in vessels; in healthy state, only in lymphatics.*—The same actions which go on in the shut cavities of the body, go on also in the vessels. These having a basis of gelatin, modify the serum effused, for the purposes of nutrition, into the substance of their parietes, and have thence a supply of the modified liquid poured into their interior; but a much more abundant supply is provided for them by the absorption of the modified liquid from the cells of the adjacent tissues. In the blood-vessels, the blood moves with such inconceivable rapidity, (the whole mass of blood amounting, in man, to about 20lbs. passing, as is at present believed, over the entire sanguiferous circuit in two minutes,) that there can be little opportunity for the completion of an action in which the mingled liquids require to remain in contact for a length of time. The liquid absorbed into the blood-vessels must be at once hurried onward to the lungs, and other organs of sanguification, by which it may be converted into the matter of the excretions; or possibly by the action of air, and admixture with fresh nutritious matter, it may be reconverted into the serum of blood, which alone, except in rare circumstances, we meet with in the blood-vessels. There cannot, therefore, be any development of cell-germs, and cells in the sanguiferous vessels, in animals whose blood circulates thus rapidly: that is, in any animals of the vertebrated class. But in all such animals, there is provided a supplementary vascular system—the system of lymphatic vessels, into which the serum of the blood passes from the capillary blood-vessels by transudation, while modified serous liquid is supplied from the sources mentioned above—in which the movement of the fluids is so slow, as to permit the completion of whatever reactions are required for the development of new cell-germs; and which is farther provided with plexuses and glands, which seem still farther intended to facilitate those reactions. It is, therefore, most probably in this system that all the corpuscles of the blood originate: they enter the blood-vessels in a transparent form, and in that state they contribute to the coagulation of the blood, and to the development and renovation of the vascular tissues: while a portion of them is, in all probability, converted into red corpuscles, by a change in the colour and other qualities of the liquid contained in their interior, analogous to the change by which we have seen the same transparent vesicles converted into pus globules.

7. *In inflammation, also in blood-vessels.*—In ordinary circumstances, it is probable that no fibrinous corpuscles originate in the sanguiferous system, on account of the rapidity of the motion of the blood: but when that motion is obstructed, as in inflammation, then the same reactions seem to go on in the capillary blood-vessels, as in the cells of the inflamed part, where the organization of the effused fluids is going on with vigour. Hence the production of the buffy coat of the blood. In evidence of this local origin of the buffy coat, I may mention the following observation which I have had twice an opportunity of making. A person labouring under severe whitlow was bled from one of the veins of the affected arm; the blood, in both instances, exhibited the buffy coat in the highest possible degree. In one of the cases, the patient was simultaneously bled from the other arm, and the blood thus obtained showed no buffy coat: but it must be remarked that the blood from the sound arm was only obtained in small quantity, and had trickled down the arm.—*Abridged from the Proceedings of the Philos. Society of Glasgow*, No. 7.

FACTS RELATING TO THE PERIOD AT WHICH MENSTRUATION CEASES IN WOMAN, AND THE EFFECTS THEREBY PRODUCED ON THE HEALTH.

BY MM. DE MUYNCK AND KLUYSKENS.

It is a fact that much more attention has been directed to the period at which the catamenia appear, than to that at which they cease; one cause of which, probably may be the greater number of females subject to the former of these phenomena, and their tender age, and the little importance, in the majority of cases, attached to the latter. Too little attention, indeed, has probably been given to the cessation of the catamenia, and many states have been attributed to a morbid condition of the uterus, which were in reality nothing more than a prolongation of the normal state, and vice versa. The following facts may, perhaps, throw light on the subject.

Return of the menses at an advanced age, cure of some obstinate affections.

CASE 1. A nun, aged 62, of a sanguineous constitution, was seized with obstinate gastralgia, after the cessation of the menses at the age of 52. For nine years she was treated by many different medical men without relief. The following are the symptoms from which she suffered when I saw her. Palpitation, with pain at the epigastrium two or three hours after taking food; digestion slow and difficult; fetid eructations, constipation, no appetite, tongue clean, urine watery, pulse natural, character irritable, sleep good. Light tonic regimen, occasional application of leeches to the anus, keeping up the spirits (moral) of the patient. In the course of a short time her sufferings were alleviated, the constipation was less obstinate, and she experienced a feeling of comfort unknown for many years. The melioration continued up to the period when a sanguineous evacuation took place from the uterus; it lasted four days, was unaccompanied with pain or any functional disturbance whatever, but there was considerable amendment in all the gastralgic phenomena. Another discharge occurred twenty-eight days after the first, and from that period the menses have recurred with their normal regularity, and now, though the lady is aged 73, they return with as great regularity as they did when she was at the age of 20. Since this re-appearance of the menses, not only have all the gastric symptoms disappeared, but she has continued to enjoy the most perfect health.

CASE 2. A nun, aged 90, had menstruated regularly from the age of 15 to 52; at this latter period she was seized with violent colic, which continued to recur at intervals for the space of two years. To this succeeded tic douloureux in well marked paroxysms; it resisted a variety of remedies, and ceased only at the age of 60, at which period the menses re-appeared without pain, and they have recurred regularly since every month; she enjoys excellent health, and is in full possession of all her faculties, moral and intellectual; she exhibits besides, tastes and ideas which are generally confined to youth.

Examples of menstruation continuing to an advanced age, are not uncommon. Many authors mention females who have given birth to healthy children, at the advanced age of 67 and 70(?) the two cases cited above are opposed to the opinion commonly entertained, that prolonged menstruation is generally met with in females addicted to sexual pleasures. The subjects of the two preceding cases were devoted to celibacy, and led a rigid and austere life.

Supplementary hemorrhage from the mamma at an advanced age, alternating with paroxysms of asthma, and terminating in cancer of the breast.

CASE 3. M., of a sanguineous constitution, has had three children, and for 40 years enjoyed excellent health. At that age the menses becoming less abundant, she began to experience wandering pains in both extremities, with a feeling of oppression and fatigue. This state continued two years without exciting attention. At the end of that period, however, the symptoms increased, and she was seized with occasional attacks of asthma, which usually preceded the appearance of the menses; at each return of these the left breast became swollen, with an intolerable feeling of itchiness around the nipple, the other breast remained perfectly healthy; the swelling of the breast sensibly increased; the veins became prominent, and the nipple in a state of erythism, and surrounded with an areola of a violet red colour.

The menses now became more and more scanty, and the attacks of asthma, more frequent and intense, resisted all the means employed. At this time a small quantity of pale blood flowed from the enlarged mamma, it escaped in drops, and might weigh 20 or 30 grs., she was then 52, and the menses had entirely disappeared.

This slight hemorrhage completely relieved the asthmatic attacks, and the breast regained its natural size and colour. From this period, a state of orgasm occurred periodically in the breast, similar to what is observed in the uterus previous to the appearance of the menses. The discharge of blood followed, and when this was scanty, the attacks of asthma recurred with great intensity.

She lived for five years and a half with this singular menstrual flux, but at that period a scirrhous tumour appeared in the breast, which soon passed into the state of cancer, under which she sunk, and died at the age of 58.—*Gazette Méd.* September 1844.

PRACTICE OF PHYSIC AND PATHOLOGY.

On some of the Dangerous Complications of Measles. By Cathcart Lees, M.B., Physician to the Pitt Street Institution for Diseases of Children.

In the month of March 1844, measles appeared among the infants. The nursery department at that time was greatly over-crowded, and the infants *were consequently not in a good state of health.* Those who were attacked were peevish, presenting at first the symptoms of ordinary catarrh, with watering of eyes and sneezing; in two or three days a few dark-coloured papulæ appeared on the forehead and neck; next day an imperfect eruption of a similar character would appear on the body and extremities; the catarrhal symptoms rather increased, with laboured respiration and fever. In four of the infants who were attacked in this manner, and who died on the second day of the eruption, the lungs were found much congested, the minute bronchial tubes very vascular, combined with that peculiar form of pneumonia which has been termed by some writers *marginal, i. e.* the edges of the anterior and middle tubes of both lungs presenting a well-marked fringe of hepatization, extending into the substance of the lungs for about half an inch, and well-defined. There were several patches of extravasated blood beneath the pleura, presenting the appearance of large petechiæ; some of them were situated immediately beneath the pleura, others in the substance of the lung. I used the warm bath and stimulants with two of these children, but without any good effect, although the previous state of these infants, worn out by wretchedness and sickness, was such as to prevent bleeding or any antiphlogistic means, which I have often found useful in similar cases occurring in children previously healthy. In the other cases, I tried muriate of ammonia, which I frequently give in cases of scrofulous children attacked with inflammatory disease, when I am afraid to give mercury, and when tartrate of antimony, or other medicines, are contra-indicated by the state of the bowels.

The peculiar feature of the epidemic consisted in a severe inflammatory affection of the throat, which presented some peculiarities that are worthy of attention, and of which the following case presents a good specimen.

Mary Danville, aged 7 months, a large infant, but of a pale, waxy appearance, attacked with catarrh and laryngeal cough on April 18; an eruption of indistinct measles appeared on the 20th, on the forehead and neck. Next day the fever was much increased, cough constant and severe, particularly rough during respiration, and of a laryngeal character; there was no stridor, nor difficulty of inspiration; there was slight vascularity at posterior part of pharynx, but no deposit of false membrane, nor any difficulty of deglutition; no swelling of submaxillary glands; there was a loose crepitating râle at the base of both lungs posteriorly. Leeches were ordered to be applied to the larynx.—*R. Calomel, gr. iv.; pulv. ipecac., gr. ii.; pulv. Dov., gr. i. M. in viii. Sumat unam secundâ q.q. horâ.*

She appeared at first to improve under this treatment, became less restless, but the cough continued; pulse varied from 140 to 160; there were no paroxysms of dyspnœa, but she died quietly on the 28th.

There was a dusky red vascularity on back of pharynx, and on posterior arch of tonsils, on which appeared a few patches of yellow lymph, firmly adherent to the adjacent mucous membrane; the tonsils were not enlarged; the epiglottis appeared thickened, as if corrugated by the inflammation, covered with a thick crust of granular lymph in patches, underneath and between which, the mucous membrane appeared highly vascular, as if rough and thickened; irregular patches of thin membrane extended down to the rima and chordæ vocales; the membrane of the trachea was vascular, and smeared with muco-purulent secretion. The mucous membrane lining the minute bronchial tubes was intensely vascular, and the postero-inferior portion of both lungs hepatized. The anterior lobes were studded with small opaque tubercles; and there were large masses of tubercular infiltration disseminated through the substance of the lungs, as well as in the bronchial glands. The liver was very large, (even for an infant), pale, presenting several large white patches extending into its substance.

This case, which I have selected as presenting the most perfect type of the disease, is well worth remarking on: 1st, From the severe affection of the throat coming on at so early a period as the second day, with the affection of the pharynx; for although a severe laryngeal cough often precedes the appearance of the eruption in measles, and has in many cases been taken for croup, yet it is not common to have severe inflammation of the larynx setting in the second day, and terminating in the deposition of false membrane—certainly not croup; but I think an attentive examination of this case, as well as the general appearances found in others, will prove that although somewhat similar in appearance, yet they differ in their essence. First, as to symptoms: The attack was not sudden, there was no stridor; the cough, though hoarse and rough, was not metallic; the expiration did not differ in duration from the inspiration; there was no paroxysm of dyspnœa; no sense of suffocation; no lividity of countenance; nor any false membrane expectorated. Second, as to the signs: In croup, the fauces are seldom found inflamed at so early a period, whereas, in the cases I allude to, they were almost in every instance found to be so. The false membranes too, were thinner than we find in croup, less consistent, occurred in patches, and did not line the tube, the chief situation being about the epiglottis. It appears to have been a severe form of laryngitis, accompanied with the deposition of false membrane, but *being merely the index of a general state of the constitution, and not a local affection, which could be treated by any local application.* What confirms me in this opinion, is, that in another child, who died about the same time, I found the lower third of the ileum coated with an exudation of lymph, exactly similar to what we found in the throat, and also that in almost all the cases there existed general bronchitis with pneumonia, (most frequently lobular) of the postero-inferior portion of both lungs, and scrofulous tubercles in every stage, disseminated through the substance of the lungs.

In some of the infants, the throat was severely affected from the first, in others it came on about the decline of the eruption. Out of 48 infants, under two years of age, who had measles, 40 presented the symptoms of pneumo-bronchitis; out of these 18 died; 4 died on the second day of the eruption, and in them I found extensive lobular pneumonia in the second stage of the postero-inferior portion of both lungs, which, I presume, must have commenced previous to the eruption. In the other cases, a low form of secondary fever would appear, from the fifth to the eighth day of the disease. On the decline of the eruption, the infant had been going on well, when it began to have restless nights, and symptoms of pyrexia. A loose mucous râle could be heard all over the back of both lungs, which soon became a loud crepitus, with slight dulness; the cough increased and the infant died, as if exhausted.—Abridged from the *Dublin Journal of Medical Science*, for September 1844.

ON THE TREATMENT OF DROPSY WITH CROTON OIL. BY DR GEORGE FIFE, Physician to the Sunderland and Bishop-Wearmouth Infirmary.

The cases were of a complex character, and depended on serious organic causes; the dropsical symptoms disappeared under the use of the medicine in all but two, which ultimately terminated fatally. The dose prescribed in the first case, (the only one in which it is stated), was three minims every night at bed-time. The remedy was steadily and uninterruptedly given for at least ten or eleven weeks, and the swelling very rapidly diminished. One remarkable fact connected with the continued employment of so harsh and drastic a purgative is, that it never, even when operating most powerfully, gave rise to any unpleasant symptom, but, on the contrary, the patient daily improved both in health and appearance. The only complaint was occasional languor. Dr Fife thinks the croton oil possesses one very decided advantage over the elaterium, viz., that even when its extreme action is manifested, it is not followed by the depression inseparable from the effective action of the latter, but that when the greatest "*vis inertiæ*" has prevailed, accompanied by absolute incapacity for exertion, a sensible amelioration in these respects has followed its continued employment. In proof of this, he refers to a case at present under its influence, where the slightest exertion was followed by extreme fatigue and languor; the patient can now walk three, four, and five miles in the day, without suffering serious inconvenience.—Abridged from *Prov. Med. Journal*, 25th September 1844.

ON THE USE OF CROTON OIL EXTERNALLY APPLIED, IN CASES OF DYSPHONIA, CYNANCHE TRACHEALIS, &c. BY S. CORP ELLIS, M.D.

Having for some time been in the habit of employing the oleum tiglii with entire success, in cases of dysphonia from catarrh, I was induced, from its peculiar action in one instance, to use it in cynanche trachealis, and with the same good result.

Case of Dysphonia.—The sister of J. R., Esq., of this city, an estimable lady, who, for several weeks had been unable to speak, except in a faint whisper, having tried some remedies in vain, consulted me. I directed her to rub three drops of croton oil along the trachea; and having done this, she had, in a few hours, a sense of constriction about the upper part of the thorax, followed by "*two*" expectorations of sanguineous mucus. Shortly after this, her voice became quite natural. This case is the only one in which I have ever observed the least unpleasant effect.

Case of Cynanche Trachealis.—A little son of Mr J. Hull, aged about three years, had, according to his mother's account, been sick several days of a bad cold. I found the little sufferer struggling in all attitudes upon her lap, with high fever, great angina, and the never-to-be-mistaken cough.

Having directed everything to be done according to the usual practice in severe cases, I took leave. The next morning the child was much worse; he lay in a comatose state, with his neck stretched back to its utmost extent, countenance livid, respiration nearly annihilated. The parents made up their mind to part with their little darling, and that too very soon; and I could not give much encouragement to the contrary. But, as a *dernier ressort*, I ordered the following:—*Ol. Tiglii, gtt.xii; adipis,* ʒii. *M. fiat unguentum.* A portion, the size of a large pea, was directed to be gently rubbed along the course of the trachea every fifteen or twenty minutes. I feared that my next visit would be *post mortem*, but was delighted to find the child better, in fact, playing on its mother's knee; and she informed me that scarcely fifteen minutes after the first application of the ointment had elapsed, ere there was a visible change. The child now breathed easier, his countenance assuming a more natural appearance; coma passing away, with the forcible ejection of a quantity of tenacious mucus.

The use of the ointment was continued at much longer intervals; the next day the membrane disappeared entirely, and the child was well.

I have had three cases of croup since, in which the second stage was about forming before I was called to attend. In these I have pursued the same treatment with similar success.—*New York Journal of Medicine*, for May 1844.

PRACTICAL DIAGNOSIS OF CUTANEOUS DISEASES, BEARING UPON THEIR THERAPEUTICS. BY M. A. DEVERGIE, Physician to the Hôpital St Louis.

If it be true that the study of cutaneous affections is more general now than formerly, still their diagnosis and treatment are a source of as much difficulty as ever. The method of Plenck, modified by Willan, is that now generally adopted. If it leads to a correct diagnosis, it still requires, on the part of the physician who follows it, considerable familiarity with the appearance of cutaneous disorders; and this arises from the circumstance that Willan has taken for the basis of his classification, the elementary forms of these diseases, whilst they are often so changed during the first six or eight days of the disease, that they are of no use whatever to the physician. The method of Alibert is still more complicated, and is, besides, less exact.

I have endeavoured to group cutaneous diseases so as not only to facilitate their diagnosis, by assuming their most prominent characters as a basis, especially those which are somewhat permanent, but have done this in such a way that the basis of diagnosis may lead to therapeutic indications. From these groups I have composed a table, which I now publish, in the hope that it may prove useful to those practitioners who have no opportunity of observing cutaneous affections upon a large scale. This is the amount of service I now render, and I am convinced, that in attaching certain morbid appearances to given groups, an error, if any be committed, will not prove hurtful, because the two great divisions of my table lead to the employment of remedies, which, if not uniform, are somewhat similar. I purpose to develope my views more fully in another article, and in the mean time will endeavour to make known here how practitioners may profit by that which I consider not so much a classification as a means of diagnosis.

I attach considerable importance to the success of this work, as scarcely a day passes in which I am not consulted by some of my colleagues, regarding individuals labouring under some cutaneous disease, which they cannot define, but for which they purpose ordering sulphureous and detergent remedies, which, instead of alleviating, only aggravate the disease.

I divide cutaneous diseases into two great classes:—1st, Those which yield a secretion, whatever the nature of that secretion may be; and 2nd, Those which yield no secretion.

The diseases in the former class are divided into as many groups as there are kinds of secretion:—1st, Serosity; 2nd, Purulent serosity; 3d, Purulent and sanious serosity; 4th, Pus; 5th, Sebaceous humor.

Diseases yielding a Secretion.

SEROSITY.
- Eczema.
- Pityriasis rubra.
- Eczema lichenoides.
- Scabies.
- Herpes phlyctenodes.
- Pemphigus.

PURULENT SEROSITY.
- Eczema impetiginodes.

PURULENT SANIOUS SEROSITY.
- Rupia.
- Ecthema cachecticum.

Diseases yielding no Secretion.

TEMPORARY REDNESS.
- Erythema.
- Urticaria.
- Roseola.
- Erythema papulatum.

PERSISTENT REDNESS.
- Purpura.
- Scorbutus.

REDNESS WITH PAPULÆ.
- Lichen.
- Strophulus.

- Pus.
  - Impetigo.
  - Acne.
  - Scabies.
  - Ecthema.
  - Sycosis.
- Circumscribed Redness, with a Furfuraceous and Rough state of the Skin.
  - Herpes circinatus.
  - Herpes nummulaire.
- Diffused Redness, with a Furfuraceous state of Skin.
  - Pityriasis rubra.
- Redness with a Thickening of the Skin and Scales.
  - Psoriasis.
  - Lepra vulgaris.
- Scales without Redness.
  - Icthyosis.
- Papulæ without Redness.
  - Chronic lichen.
  - Prurigo.
- Vegetable Productions.
- Animal Productions.

A. Under the group of diseases which secrete serosity, are six affections:—

Eczema.—In this disease the serosity escapes from a red surface, by myriads of apertures, in the form of minute drops, like rain.

Acute Pityriasis Rubra.—In this affection redness also exists; but the serosity escapes like a kind of sweat, without a punctuated state of the skin.

Lichenoid Eczema.—In this the serosity escapes from a round surface, bristled over with a number of papulæ. It is exhaled between these papulæ.

Scabies.—In scabies the serosity is contained in a small isolated vessel.

Herpes Phlyctenodes.—In this disorder the serosity is contained in a number of distinct bullæ, which sometimes meet at a portion of their circumference.

Pemphigus.—In pemphigus the serosity is contained in bullæ or phlyctenæ, of such a size that they resemble the blisters of a burn.

B. Pus and serosity are secreted at one and the same time, in only one disease, viz. *Eczema Impetiginodes.* The product of the secretion is a crust of more or less extent, the mixed yellow and grey colour of which sufficiently indicates that it is not entirely formed of pure and unadulterated pus.

C. Next follow cutaneous affections, which at the same time yield both pus and sanies. These are *Rupia* and *Ecthema Cachecticum.* In *Rupia* the result is a crust of threatening aspect, formed of pus, ichor, and blood, and whose form is never regular. In *Ecthema Cachecticum* there is the same kind of crust, but it rests on an inflamed base, and has the round form of the pustule which produced it.

D. To these succeed those affections in which pus alone is secreted. At their head stands *Impetigo*, which may be taken as their type. It exhibits superficial purulent crusts, of a golden yellow colour, resembling concrete honey.

Next comes *Acne*, in which the pus always exists at the summit of a pyramidal pustule, and in which the pustules are always isolated.

Pustular Scabies.—In this disease the pus occupies almost the entire surface of an *isolated* and *flat* pustule.

Ecthema.—In ecthema the pus occupies the whole surface of a large, flat, isolated pustule, exhibiting in its centre a *black point*, which becomes more and more depressed, forming a depressed pustule, similar to what occurs in small-pox.

Sycosis.—In this complaint the pustules involve the whole thickness of the skin, and rarely appear, except on the chin, whence its name, *Mentagra.*

E. Lastly occur those diseases which secrete fatty matter; of these there only exist two, *Acne Punctuata*, observed upon the nose, front of chest, and back, in the shape of small black points. If pressure be made in the circumference of these, a species of small entozoa may be squeezed out.

And also the *Acne Sebacea* of Biett, in which a brownish yellow matter is formed on the skin, in the form of plates, which may be detached by simple friction, and which have the appearance of dirty solid fat.

Diseases yielding no Secretion.

In these the redness is characteristic and primary.

A. The redness is *fugacious*, by which is to be understood, that it disappears under pressure. Under this group are comprehended the following diseases:—*erythema, urticaria, roseola,* and *papular erythema,* the latter is subsequently distinguished by its seat. *Roseola* is characterised by the extent of the redness, and by the general precursory and concomitant symptoms which precede and accompany it. *Urticaria,* again, is characterised by the successive appearance and disappearance of circumscribed eruptions, raised above the level of the skin; erythema is also distinguished by this mode of elimination.

B. In the second group of this class the redness is persistent; and does not disappear under pressure. *Purpura* and *scorbutus* are found in it. The small extent of the spots, in the greater number of cases, in purpura, and their *bright red* colour, easily distinguish it from the large round *violet* spots of scurvy.

C. In the next group the redness is circumscribed, and there is a rough furfuraceous state of the skin. These characters are found in *Herpes circinatus* and *herpes nummulaire;* the first is in the form of a circle or hoop, the second in that of plates.

D. In the fourth group the redness is diffused, with a furfuraceous state of the skin. *Chronic pityriasis rubra* belongs to this category.

E. In the fifth, along with the redness, there is thickening of the skin and scales. Under this group are comprised two affections, *psoriasis* and *lepra vulgaris.* In psoriaris the disease takes the form of generally rounded plates. In lepra vulgaris it assumes the form of incomplete circles.

F. In the sixth group there exists no redness, but the skin is covered with scales. *Ichthyosis.*—In this disease the scales are uniformly disseminated over the surface of the members, in such a way as to constitute a new covering, which has some analogy with the scales of a fish.

G. In the last group there exists no redness, but the skin is covered with *elevated papulæ* scattered here and there. Under this class two affections are placed, *Chronic Lichen,* and *Prurigo.* In prurigo, at the summit of each papula, there is usually a small crust of blood, arising from the excoriation produced by scratching. Nothing of the kind is observed in lichen, the papulæ are almost entirely intact.

H. The vegetable and animal productions, which form on the surface of the skin, complete this arrangement. Under the former are comprised three varieties of true tinea or *favus,* the favus lupinosa, scutulata, and that which I name granulata; *there may also be included under it prurigo decalvans* and *herpes tonsurans.* Some experience is necessary to recognise these affections. It is impossible to define them by isolated characters.

As to animal productions, these comprise the *pedicular disease,* and that which engenders fleas.

By this analysis of certain morbid phenomena, we establish classes of affections, which if they do not immediately and certainly establish the diagnosis of cutaneous affections, yet furnish us with data which will, with a little attention, and by reference, in case of doubt, to the description of the two or three diseases comprised under the same group, afford a diagnosis which is altogether free from doubt. But this method has another advantage; it leads to direct practical inductions, as we shall endeavour to exhibit in another article. There is, in fact, a great difference to be made in the treatment of secreting and non-secreting diseases; this division alone will be a source of numerous therapeutic indications to the practitioner, according to the age of the patient, the strength of his constitution, the sound or diseased state of his internal organs, and the acute or chronic stage of the affection. In our next communication we shall endeavour to exhibit cutaneous affections in a general point of view, and shall do so the more carefully, as a general system of therapeutics applicable to diseases of the skin is still a desideratum.

Nota. 1st, It is, of course, to be understood that syphilitic affections are not included in this table, these have their own peculiar character and form.

2dly, If the distinctive characters we have described in this article be applied to each disease enumerated in the table, the result will be that from the whole specialties may afterwards be easily adduced.—*Bull. Gén. de Thérap.*, Aug. 1844.

SOME IMPORTANT IMPROVEMENTS IN THE MODE OF MANAGING BLISTERS.

BY JOHN KEY ROBERTSON, M.D., Glasgow.

In a monograph on "Special Diseases," published by me in 1841, I described a mode of managing cantharides as a blister, the general purport of which I shall repeat here. I beg leave to say, that what follows is the result of my observation, extending over nearly seventeen years, and that if the practice be followed anywhere, or by any one, it has never been made public but by myself, so far as is known to me. The improvements I beg to suggest are the following:—The common empl. canth. of the pharmacopœia is to be used.

I. It is generally spread on leather.

It should never be spread on leather, but on thin paper, (partially sized, or printing paper,) or upon soft linen. Leather, by the heat of many parts of the body, becomes dry, partially crisp, and with difficulty adheres to the skin, producing, even if the blister were otherwise good, an impossibility in many instances of acting well and generally over the whole part intended to be blistered, from not being over the whole extent of the blister in contact with the surface of the body. The linen or paper has no such objection, and clings easily and to anywhere. I invariably use *paper*, and straps to secure it, above these a small pad, and then a bandage.

II. It is generally spread very thick.

It should be spread very thin—a mere covering of the paper or linen is all that is requisite. This thickness partakes of the objection already mentioned with reference to leather; and as no more than the mere surface of the blister can act on the skin, to make a blister thick is, in addition to rendering it in many places difficult of application or adhesion, sillily throwing away, or wasting a rather expensive substance.

III. It is a very common practice to cover the surface with powdered cantharides.

This should never be done, but instead, a few drops of olive or sweet oil put on the surface of the spread blister, the oil, by means of the finger, being rubbed into the surface and allowed to remain. There are several objections to the practice of putting powdered cantharides on the surface of blisters. In the first place, a good one does not need it. In the second, a bad one won't be made good by its being there, as dry cantharides act very triflingly, or not at all, on the skin; and again, if the blister act, it is troublesome to remove from the surface, thereby increasing the chances of strangury by absorption, or forcing us to tear off the cuticle to obtain its removal. The active property of Spanish fly is soluble in fixed oil. This, it may be said, is perfectly well known; possibly it is well known; but while the simple empl. canth. of the shops will act occasionally tolerably well in summer, in winter it is far otherwise; the vehicle is then almost solid, and my proposal is a means of obtaining the activity of the Spanish fly at all seasons, and independently of ordinary counteracting circumstances. Its activity by this means is not only rendered certain, but *more intense*, much less time being necessary to blister than usual, six to eight hours being quite enough, and even less will do where time is of importance.

The skin requires no preparation whatever—*strangury never follows with*
The blisters are dressed afterwards in the ordinary way, with cotton. If the
has been rubbed into the blister a few hours before being used, so much the

None of the blistering tissues recommended and puffed by those interested
selling them are, in my estimation, to be compared to the means
Every man can make this blister for himself, of the commonest materials,

very trifling expense; and if this be any recommendat'on, it will act three, four, or six times, if uninjured, and the oil gently renewed on the surface.—*Lancet*, Oct. 5, 1844.

A Sulphate of Iron, combined with an Alkaline Carbonate, proposed as an Antidote for Prussic Acid. By T. & H. Smith, Chemists, Edinburgh.

The salt of iron, which we have used as the basis of the remedy, has the same constitution as Prussian blue, which it may be proper, without entering into the disputed question of its real constitution, to remind the reader contains seven equivalents of iron and nine of cyanogen; or, on the supposition that the cyanogen is replaced by oxygen, of three equivalents of protoxide, and two equivalents of peroxide of iron. Thus,

$$3\ Fe\ O + 2\ Fe_2\ O_3 = 2\ Fe\ Cy + 2\ Fe_2\ Cy_3$$

To prepare a salt so constituted is an exceedingly simple process, and can be accomplished by any one, even with a very moderate knowledge of chemistry. For this purpose, seven parts of protosulphate of iron, say seven half drachms, are required, four of which are to be formed into persulphate. This is done by adding to the solution a quantity of sulphuric acid equal to the half of what it already contains—which for two drachms would be twenty-three grains of acid of the density of 1·845—and at a boiling heat, adding, at short intervals, small quantities of nitric acid till red nitrous fumes cease to be given off. The liquid is then to be evaporated in a porcelain basin to perfect dryness, by the heat of a water bath, stirring constantly with a glass rod till the excess of acid is thoroughly driven off. The operation will be more quickly finished in a bath of a saturated solution of salt. The perfectly dry salt is then to be dissolved in distilled water along with one and a half drachms of protosulphate of iron, so that the solution may amount to two ounces. This solution will not of itself precipitate prussic acid, but if a solution of an alkaline carbonate be previously added, containing a quantity just sufficient to take all the sulphuric acid from the iron salt, the prussic acid combines instantaneously with the iron, forming the very permanent and insoluble compound, Prussian blue. As the solution of the sulphate of iron contains in all nine equivalents of sulphuric acid, the same number of equivalents of carbonate of potash—the alkaline carbonate we use—will be required to seize upon these and produce complete decomposition; it is therefore a very easy matter to determine the quantity of alkaline carbonate necessary. The equivalent of the carbonate of potash is 69·27, and nine equivalents of this is 69·27+9=623·43. The equivalent of protosulphate of iron is 130; of this seven equivalents are needed to form a salt of the constitution indicated, therefore seven equivalents are found by multiplying 130+7 =910. The relative quantities are consequently 910 grains of protosulphate of iron, and 623·43 grains of carbonate of potash. Now, as the quantity of sulphate of iron given in our formula was seven half-drachms, or 210 grains, the correct quantity of carbonated alkali can be found by the following proportions:—

910 : 623·43 :: 210 : 144.

Therefore 144 grains is the proper quantity for the exact decomposition of the iron salt; and, for the sake of simplicity, we dissolve this in the same quantity of water as the sulphate of iron. As each of the solutions contains exactly 960 minims, which by calculation should throw down 56·8 grains of real prussic acid, between 17 and 18 minims of each should separate one grain; and as the hydrocyanic acid of the London pharmacopœia contains two per cent. of real acid, 35 minims of each would be required to precipitate 100 grains of such an acid. The acid of the Edinburgh pharmacopœia, on the other hand, containing about three per cent., a third more, or about 52 minims of each of the solutions, would be necessary to separate all the prussic acid from 100 grs. It is probably unnecessary to carry the calculation higher, as we suspect that if a larger quantity than 100 grs. should be taken, the fatal effect would be so rapid as completely to exclude the possibility of rendering any available assistance.

These are the quantities theoretically necessary, and when pure materials are used, will be found very nearly correct, as tested in an open vessel; but when given as an antidote for the poison, we would recommend not less than three times the theoretical quantity to be given, as from the presence of food, mucus, &c., in the stomach, it is improbable that the antidote would mix immediately with the poison at every point, so that to render the action more certain, a large excess is advisable, more especially as this can be attended with no evil consequences, as the only effect that could follow an excess would be the formation of sulphate of potash, and an insoluble mixture of protocarbonate and peroxide of iron; which, if active in any way, would, by producing sickness and vomiting, be really in the direction most to be desired.

There is one circumstance that may interfere with the action of the antidote, and which cannot be overlooked. We allude to the possibility, nay, the probability, of the existence of a strong acid in the stomach. In such a case it is evident that the alkali, on entering the stomach, might be wholly neutralised, and thus prevent the decomposition of the iron salts; but we have found that the prussic acid is completely precipitated by the method proposed, although a large quantity of either caustic or carbonated magnesia is present so that nothing can be more easy than at the very outset to give the patient a large dose of magnesia in either state, so as thoroughly to neutralise all free acid; but when this is not possible, it is not meant that the antidote should not be given. We gave magnesia in none of our experiments.

The mutual decomposition resulting from the mixture of the alkaline carbonate and the mixed sulphate of the protoxide and the peroxide of iron, in the quantity of two ounces of each, would produce 179 grains of sulphate of potash, 37 grains of peroxide of iron, and 40 grains of carbonate of the protoxide of iron, so that two drachms of each of the liquids, being the eighth of that quantity, would give

$\frac{179}{8}=22{\cdot}4$ grains of sulphate of potash,
$\frac{37}{8}=4\frac{5}{8}$ grains of peroxide of iron, and
$\frac{40}{8}=5$ grains of protocarbonate of iron.

Now, as with prussic acid of three per cent. two and a half drachms of each of the liquids is three times more than what is theoretically necessary to destroy 100 grains of the poison, no fear need be entertained of any evil effects resulting from the quantity of the antidote required in cases where a large dose of the poison has been given.

We first thought of keeping the alkali and compound salt of iron in the dry state; but as both of these are very deliquescent, and consequently continually liable to change in their strength, it would have been impossible to fix on the weight of each required for mutual decomposition, besides that the state of solution is best fitted for obviating delay in its administration.

In all our experiments we have used one drachm of each of the liquids for every 30 drops of prussic acid, which is about four times the quantity theoretically necessary, and we would recommend that there should never be less given than one drachm of each for every 30 drops of the acid supposed to be taken; and from the harmless nature of the compounds resulting from the decomposition, we think it would not be unadvisable to give much more than that proportion, so as to assist the desired decomposition by a great excess of the decomposing agents.

In giving the antidote, we always give the alkaline solution first, having previously mixed it with a little water; we would therefore propose that the alkaline liquid should be labelled

PRUSSIC ACID ANTIDOTE, No. 1.
Solution of Carbonate of Potash.

The solution of the iron salts, also diluted, is next given without delay. This liquid we would further propose should be marked

PRUSSIC ACID ANTIDOTE, No. 2.
Solution of Proto-Persulphate of Iron.

Our first thought of the antidote arose from a consideration of the nature of the test proposed by Scheele for prussic acid; but in applying it as an antidote for the acid in the human stomach, it was necessary to learn if a carbonated alkali could be substituted, as it is evident, if a caustic alkali were required, this being itself a corrosive poison of no mean energy, its use must on that account have been completely precluded. We found, as already stated, that in an open vessel containing prussic acid, this was completely and instantaneously removed by a salt of iron of the same constitution as Prussian blue, and enough of a carbonated alkali to combine with all the acid of the iron salts. We also tried the black pulpy hydrated oxide of iron precipitated from a salt of iron of he constitution indicated; but although, on mixing this with a liquid containing prussic acid, a singular commotion occurred, yet we found that the acid still remained in the liquid. We therefore fixed on the form of the antidote which we have proposed.

To test the antidote on the living stomach, we made experiments on dogs, an account of which we will now give.

The prussic acid was tested before commencing the experiments. Thirty-three grains gave a fraction more than five grains of cyanuret of silver, answering to a trifle more than three per cent., which is the strength of the medicinal acid of the Edinburgh pharmacopœia; the same acid was used in all the experiments. The animals were all slightly below the middle size, and as nearly as possible of the same strength. The subject of the first experiment was the largest, and of the fourth and sixth the smallest. The different articles were conveyed into the stomach through an œsophagus tube, effectually protected by a gag. In all the experiments, Mr Spence, teacher of anatomy in this city, was so obliging as to give us his able assistance—it is right that he should be thanked by us publicly and cordially.

July 22.—First dog. Forty drops of the acid given. The dog was dead in seven minutes.

Same date.—Second dog. Forty drops were given. From an obstruction in the tube, a delay of about five minutes occurred before the antidote could be given; a considerable quantity of the antidote was also lost from regurgitation. Before this period the dog was evidently dying. It was dead in about fifteen minutes.

July 25.—Third. Gave thirty drops, and followed this at once with the antidote. The animal seemed to suffer little inconvenience, and ate heartily about an hour after.

Same date.—Fourth dog. Thirty drops were given, and allowed to remain on the stomach about one-and-a-half minute, and the antidote was then given. About four minutes after this violent and repeated vomiting occurred, but the animal gradually revived, and in about an hour after greedily devoured a mess of brose—a Scotch dish, being a mixture of oatmeal and water stirred rapidly together.

July 27.—Fifth experiment. The dog used was the same as had formed the subject of the third experiment. Thirty drops were given. In a minute and a half the antidote followed; but on examination it did not appear to have passed into the stomach; and on withdrawing the tube it was found to be completely full of the liquids, in consequence of the lower opening having become perfectly plugged with the pasty contents of the stomach. The subject of this experiment had got a hearty meal six hours previously. Prussic acid was ascertained to have been left in the tube; but some of the poison must have got nto the stomach, as the dog very soon showed the usual symptoms of poisoning with prussic acid. In about four minutes it vomited an abundant mess of oatmeal. The usual remedies were applied—dashing cold water upon the animal, applying ammonia, the jugular vein having been also opened by Mr Spence, notwithstanding which life was quite extinct in the course of two hours.

July 30.—Sixth experiment. This dog had previously served for the fourth experiment. It showed the most extraordinary symptoms of terror when bound on the table. Its whole muscular system was in an unceasing tremor, and its pulse beat very low. No doubt the recollection of the previous experiment was vividly present to the animal. Thirty drops of the acid were allowed to remain on the stomach for one minute, and then the antidote was given. Symptoms of poisoning soon appeared—in eight minutes it vomited a small quantity of a brown glairy liquid, after which it appeared very much exhausted, and was unable to stand on its legs; it lay on its sides for about an hour, all its limbs trembling and starting occasionally, and the respiration very rapid, the symptoms appearing more the result of terror and the severe shock the whole system had sustained, than a manifestation of the effects of the prussic acid poison. It then raised its head and looked around with an intelligent eye, appearing to seek for something; and on giving it some food it ate ravenously; after which, it rose up on its legs and shook itself, and thereafter continued quite well, and without a single morbid symptom. We may remark, that we used the precaution in all the dogs, except that which formed the subject of the fifth experiment, of giving no food for twenty-four hours before being subjected to experiment.

August 5th.—Seventh Experiment.—The œsophagus of this dog was cut down upon by Mr Spence, and a tube passed into the stomach. The œsophagus being then tied to the tube, the usual dose of the poison was given, and in three minutes followed by the antidote. The tube was now withdrawn, a ligature at the same time applied, and life was instantly extinguished by spining the animal. The stomach was immediately removed, a ligature having been first attached to duodenum and cardiac orifice. The contents of the stomach, free from the odour of prussic acid, being filtered, the filter retained a greenish matter, which, on being acted on with pretty strong nitric acid, left Prussian blue in considerable quantity. The filtered liquid was, within an hour, introduced into a retort, and about an eighth distilled over. The distilled liquid had no odour of prussic acid, gave no precipitate with nitrate of silver, and no indication of prussic acid with Scheele's test. Every trace of the poison had been destroyed by the antidote.

We do not, for one moment, conceive the remedy we have proposed to be infallibly successful, as an antidote in all cases of poisoning by prussic acid. It stands, in this respect, on the same ground as our most valuable remedies. Its success must vary with circumstances peculiar to each case.

If we have placed in the hands of medical men an instrument which shall be the means of saving a single life, we shall consider ourselves amply rewarded for any time we have devoted to this investigation.—Abridged from *Lancet*, 5th October 1844.

CASE OF EXTENSIVE CONGENITAL ULCERATION OF THE RIGHT LEG.

BY T. BOSWALL WATSON, M.D., of the Leith Dispensary.

Mrs S., the mother of four children, one of whom only is alive, was seized with labour pains of her fifth child at one A.M. of the 18th January 1844; the breech presented, and the delivery was somewhat tedious, not being completed until four P.M. the next day. The child was well formed in every respect, and rather above the usual size.

The right leg presented the following singular appearance:—On the forepart of the limb, and commencing immediately below the knee, an ulcer, if it might be so termed, extended in nearly a straight line to the ankle; where, crossing the instep, it extended downwards and inwards to the sole of the foot, and forwards to within a short distance of the great toe. The diseased part presented a brownish chocolate-coloured appearance throughout its whole extent, and a serous-looking fluid was secreted from its surface, which was not sensibly raised above the level of the surrounding healthy skin. Towards the instep and plantar surface of the foot, the diseased action seemed to be of a more severe character than on the upper portion of the limb, the inferior part being considerably darker in colour, and the secretion partaking more of the nature of pus. A much greater extent of the limb had also evidently been at one time involved in the disease, as distinct traces of recent cicatrization presented themselves beyond the margin of the part affected at birth. In the sole of the foot, as the process of healing had proceeded in utero, pretty strong bands had been formed, so as to draw the foot somewhat inwards, constituting thereby a very slight degree of varus. From the same cause, also, the great toe was drawn inwards from the adjoining one. The form of the part at birth, in a state of ulceration, bore a marked resemblance to that of the tibia, having its greatest width superiorly, corresponding with the situation of the head of that bone, and narrowing gradually though irregularly as it proceeded downwards. No vascular ramifications could be observed, either in the preternatural formation itself, or in the healthy skin surrounding it. The infant evinced very considerable pain by screaming and frequently drawing up the limb, but the general health did not seem to be at all affected. The healing of the ulcer proceeded gradually though slowly; the brownish liver-coloured appearance which the diseased part presented, changing first to a lakish hue, and afterwards to a purple tint as it advanced towards complete cicatrization, which in the sole of the foot was not accomplished until about three weeks after birth. Some months, however, elapsed before the part assumed the colour of healthy skin, though the form of the previously diseased portion can still be easily recognised.

All marks of the texture of the skin are commonly classed under the convenient term of *Nævi*, but the above cannot be included in the category, since it differs widely from the general character of this order; it may more properly be considered the remains of a simple ulcer, over which, as regarded the singular colour of the diseased part, the liquor amnii might possibly have exerted some influence. M. Rayer, in his work on cutaneous diseases, mentions that the skin has been found primarily defective amongst new-born infants; but he does not state that any case of the kind had ever come under his observation, or the particular appearance which the integuments in such cases presented. He states having had an opportunity of examining an example of extensive vascular nævus of the right fore-arm and hand, not raised above the level of the surrounding skin, and of a violet colour. Five weeks after birth it became affected with inflammation in several places, which all gave way, and became open ulcers. It differed, however, from the case above narrated in not being in a state of ulceration at birth.—*Northern Journal of Med.*, Sept. 1844.

CASE OF ENCEPHALOCELE, OR HERNIA CEREBRI. BY W. LYON, Esq., Glasgow.

The child was delivered by a midwife on the first of March 1844, and the labour is reported to have been easy and rapid. Situated over the occiput, there is an oblong tumour, the size of a large fist, the upper part of which is on a level with the crown of the head, and its lower margin rests on the nape of the neck. It measures 11 inches in its largest circumference, 9 where it is attached to the scalp, 7 from side to side, and 8 over its surface, from the superior to the inferior attachment. "It feels tense, is livid at some parts, and opaque, but softish and obscurely fluctuating, *and does not pulsate.*" The anterior half of it has a marbled appearance, is traversed by numerous small tortuous vessels, and the parts which are not livid are covered with thin soft hairs. No opening can be felt under the attachment of the tumour. The head is of ordinary size, but the forehead is remarkably low and receding. The child is well formed, and of average size, but it is weakly and does not suck actively, and when pinched can be readily made to wince, but not to cry.

That the tumour, nearly as large as the head, consisted solely of protruded brain, was rendered unlikely, from the cranium being nearly of normal size, and from the pulsation, generally felt in such cases, being absent.

The absence of pulsation and transparency, the flaccid state of the fontanelles, and the impossibility of rendering them tense by making pressure on the swelling, rendered the connection of the tumour with the contents of the cranium doubtful, and the diagnosis was rendered still more difficult, as the child could not cry, and, consequently, it could not be ascertained if the tumour was influenced by the state of the respiratory functions. Gentle compression, by means of an elastic cap, was tried, but soon abandoned, in consequence of the difficulty of adjusting it so as to act effectively.

The connection between the tumour and the brain was rendered positive in a few days, as the tumour became so flaccid that the edge of an opening into the cranium could be nearly unequivocally felt.

The infant soon refused to suck, gradually lost flesh and strength, and after continuing in a partially comatose state for 8 or 10 days, expired on the 1st April.

The tumour contained about 3 ounces of bloody serum, and its parietes were formed by the scalp, pericranium, and dura mater. Portions of the posterior lobes of the cerebrum, about the size of a small apple, covered by the arachnoid and pia mater, "having a film of serum between them and the dura mater," projected through an opening in the inferior and middle part of the occipital bone, into the sac. This opening was almost the size of the point of a finger, had rounded edges, and was situated immediately above the tentorium, which was imperfect. It was bounded above by the termination of the longitudinal sinus, at the sides of the lateral sinuses, and below by the incomplete tentorium.

The portion of brain which projected into the tumour was compressed where it passed through the opening, and bulged out to the size of a small apple in the interior of the sac. There was no fluid within the cranium, either beneath the membranes or in the ventricles. The substance of the brain was quite normal. The other organs were not allowed to be examined.

The absence of pulsation and incapability of altering the condition of the fontanelles, by pressing on the tumour, depended upon the free passage of the serum, and the free circulation in the vessels in the protruded portion of brain, being prevented by the impacted state of the opening between the cranium and the sac.

Strictly speaking, this must be considered a case of congenital hernia of the brain.—Abridged from the *Medical Gazette* for July 12, 1844.

SURGERY.

On the Employment of Bougies, imbued with Alum, in the treatment of certain Affections of the Urethra. By M. Jobert.

In diseases of the urethra, M. Jobert employs alum in the following manner. He spreads upon a table some burnt alum, reduced to powder. He then takes a wax bougie of a size suited to the dimensions of the canal, heats the end of it at a lamp, kneads it with his fingers, and then rolls the portion thus softened in the powder. This he continues till the bougie becomes thoroughly incorporated with it. When that is accomplished, the extremity of the bougie becomes white, and the superfluous alum is removed by a little friction. The instrument is then dipped in oil, introduced, and maintained for a time in the portion of the urethra where the patient complains of pain.

By this means M. Jobert is enabled to employ an application which, from the tightness of the canal in certain cases, he could not have done by means of the ordinary *porte-caustique.—Annales de Thérapeutique;* as quoted in *Journal de Médecine et de Chirurgie Pratiques.*

Penetrating Wound of the Chest, produced by a Gun-shot Ball, afterwards evacuated by Stool. By Dr Antonia Coca, Barcelona.

A young lad, aged 15, received a shot from a height, the ball penetrating the chest. When brought to the Hospital of Barcelona, he was in the following state. On the lateral portion of the left side of the thorax, opposite the middle of the sixth rib, there was perceived a wound, the extent and form of which indicated that it had been produced by a ball, as the patient himself declared. No exit being found, it was suspected that the ball remained in the wound, and on introducing the finger, M. C. was convinced it must have penetrated the thorax. The middle portion of the sixth rib was fractured. M. C. merely brought the edges of the wound as closely together as possible by means of adhesive strap and a bandage, in order to prevent the entrance of air. There was fever, bloody sputa, difficulty of respiration, or pain of chest. A bleeding to the extent of 15 ounces was prescribed, together with demulcents, absolute rest, silence, and rigorous diet. Eight additional bleedings, to the extent of a pound each, were practised on the following days; but notwithstanding this energetic treatment, the respiration became more and more difficult, and the patient sank on the twelfth day. But, singular enough, on the sixth day he had passed the ball by stool, without ever having exhibited, says M. C., the slightest symptom of irritation in any portion of the alimentary canal, nor any lesion of the diaphragm, or effusion into either the abdominal or thoracic cavity. On dissection the course of the ball was traced from its entrance to its exit. The interior surface of the fractured rib presented a number of spiculæ, which must have constantly irritated the corresponding portion of lung. A fragment of the internal lamina, about the length of an inch, had penetrated the base of the lung. The whole of the left lung adhered to the costal pleura, and was infiltrated with pus; the right lung presented the same appearances, but in a less degree. The fragment of the rib was so deeply imbedded in the lung, that the slightest pressure caused it to project into the internal surface of the pericardium. There were adhesions between the diaphragm and stomach. The wound traversed the base of the lung from above downwards, and penetrated the stomach. The opening into the stomach was perfectly round, similar to that in the lung. The course of the wound explains the expulsion of the ball by stool.—*Repertorio de la Societad de Emulacion de Barcelona,* quoted in *L'Expérience,* July 1844.

FARTHER OBSERVATIONS ON THE USE OF NITRIC ACID AS AN ESCHAROTIC, IN CERTAIN FORMS OF HEMORRHOIDAL AFFECTIONS. By JOHN HOUSTON, Dublin.

At page 745 of our volume for 1843, we gave, in a condensed form, Dr Houston's previous paper on the use of nitric acid in certain forms of hemorrhoids. Since the publication of that memoir, he has had many additional opportunities of putting the medicine to the test, and ascertaining still further its value as a remedial agent. The result of his inquiries he has published in the Sep-ember number of the *Dublin Journal of Medical Science,* from which we select he following general remarks, deducible from the cases detailed:—" I have eason to know, that in reliance on my recommendation of it, the nitric acid has been used extensively, and in many cases with complete success. Such ailures as have occurred in other hands, may, perhaps, be often traceable to ome want of discrimination as to the fitness of the case for the remedy, or to ome imperfection in the mode of application of the latter, rather than to a ailure in its efficacy. As I have known errors of this kind to happen, I must gain repeat, that the only case which the nitric acid will serve, is the *internal* leeding pile—that soft, red, strawberry-like elevation of the mucous mem-rane, for which I have used the term *vascular tumour,* and which the acid removes by the production of a slough of its surface. The surface to be thus cted upon must be soft, and free from any coating of cuticle, such as is apt to orm on it by persistent prolapse; for, if the acid be used in a case so circumstanced, nothing more than a removal of the cuticle may be expected from the pplication; and further, to ensure to the caustic its full effect, the part to be ouched by it should be dried and cleared of all mucous or other adherent uids. The acid must be laid on in quantity, and rubbed in with force enough o be pressed into the pores of the surface. A second application may be neces-ary when the tumours are of old standing, and firm in texture.

If possible, the prolapse should be returned after applying to it the acid. This is a part of the operation which should not be omitted, because when the arts are restored properly into their place, they are both in a predicament at nce to grow aright while healing, and also to go through the steps of repara-ion with the least distress to the patient, and in the quickest time; whereas, if the protruded part be allowed to remain down until the inflammatory tumefaction consequent upon the operation of the caustic is developed in it, the bowel will then not only take a fixed seat in the prolapsed position, but the tumefaction will be increased by the constriction of the sphincter upon it, and the pain consequently aggravated, as well as the period of convalescence prolonged."—*Dublin Journal of Medical Science.*

CASE OF EXCISION OF NEARLY ONE-HALF OF THE LOWER JAW-BONE. By S. CHISHOLM, M.D. Inverness.

The subject of this operation was a man 68 years of age, who was admitted to the Northern Infirmary on the 22d of last June, for *spina ventosa* of the left side of the jaw. His mouth was so distorted that he could only with difficulty manage to take his food. He had been operated upon for carcinoma of the lower lip six years previously; and the more formidable operation of excision of the diseased portion of the bone was undertaken more with the view of affording temporary relief, than with the prospect of obtaining a permanent cure. The left half of the bone was removed from the side of the symphisis to its articulation, and the steps of the operation were conducted with perfect safety. By the 28th of August, the man's health and strength were so restored as that he was able to undertake to walk the journey home, a distance of upwards of 60 miles, he having derived all the benefit that could result from the operation under such circumstances.—*Medical Gazette*, October 11, 1844.

FORENSIC MEDICINE.

TRIAL OF A SURGEON FOR MANSLAUGHTER. RUPTURE OF THE VAGINA, WITH PROTRUSION AND LACERATION OF THE INTESTINES.

The particulars of this painful case are furnished by the evidence led at the trial of Mr Garland for manslaughter, and the narrative of Mr Jones, who was called into the case.

Mrs Dent, aged 24, a healthy woman, the mother of four children, and whose labours had been always easy and natural, thought herself about three months gone with child, having last menstruated on the 14th of February. On the morning of the 22d May, being in her usual health, she moved a sack containing twelve stone of flour, on a chair from one room to another, and placed it on the floor; in the afternoon of the same day, she complained of pain at the lower part of the body, and thinking she was about to miscarry, sent for Mr Garland, a practitioner residing at Littleport, about two miles from her own residence. He arrived at four o'clock in the morning of the 23d, and on examining her, said that he could bring the child forward. He waited a short time, then examined her again, and hurt her very much. She exclaimed, "for God's sake leave me alone, for you are pulling my entrails out;" also, "that she could feel her bowels come away from her stomach all the way to her throat." One of his hands was at this time in her body, and the nurse in attendance, from whose evidence the foregoing is taken, now saw some of her entrails protruding from her body, and lying upon the bed, as much as would fill a good sized plate. Mr Garland said he did not know what he had got; moreover, that the child was not forward, and he could find none.

Mr Jones saw the patient about half-past seven o'clock; he could obtain no information regarding the previous history of the case, but in passing his hand beneath the bed-clothes he felt something like the umbilical cord, which turned out, on the removal of the clothes, to be a large portion of the intestines protruding from the vagina. One end of it was completely torn through, and lying loose; the other end, or that nearest the vagina, hanging by a portion as wide as a finger nail; *and in its whole length it was separated from its mesentery.*

To avoid exposure of the nature of the case, as well as to remove an offensive mass, he applied a ligature to the intestine near to the vagina, and cut off the parts below it. In the course of the day the nurse found, apparently, a three months fœtus in the bed. The portion removed was all small intestine, and *measured nineteen feet and a half.* The intestine which had been tied at the orifice of the vagina, gave way on the 24th, and a false anus established. Attempts were made to support her strength, but she gradually became weaker, her pulse sinking from 120 to 60; she suffered but little pain, and died June 8th, being 17 days from the protrusion of the intestine.

The body was examined by Mr H. Mitchell, house-surgeon to Addenbrook's Hospital. Previous to opening the body, the lower part of the abdomen appeared flat instead of prominent; on opening the abdomen the omentum had an offensive smell; was of a dark colour, and in a state of mortification; the intestines were all, more or less, in a diseased state; found only about *two yards of the small intestine in the abdomen;* on tracing the small intestines down, they did not terminate in the large intestines, but in an unnatural opening into the vagina; the opening was produced from violence.

Mr Garland, who has been in practice since 1816, was found guilty of manslaughter, and sentenced to be imprisoned for one calendar month.

VAGINAL HYSTEROTOMY AND CRIMINAL ABORTION.

A recent number of the *New York Journal of Medicine* contains an account of a case in which vaginal hysterotomy was performed on a woman during labour, by Professor Bedford, successfully for both mother and child. The woman had borne two children previously, at full term, without difficulty, and the operation appears to have been rendered necessary in this instance in consequence of injuries done to the parts, by means employed to effect abortion, at an early stage of her pregnancy. From the account given to her medical attendants by the woman, she had *miscarried five times* previously, in consequence of drugs administered to her for the purpose, by a notorious woman calling herself " Madame Restell." About six weeks after becoming pregnant again, she called on the same " Madame," who on learning her situation, gave her some powders with directions for use; these powders did not appear to produce the desired effect. She returned again to this woman, and asked her if there was no other way to make her miscarry. " Yes," says Madame Restell, " I can probe you; but I must have my price for this operation." " What do you probe with?" " A piece of whale-bone." " Well," thought the patient, but without expressing it, " I cannot afford to pay your price, and I will probe myself." She returned home and used the whale-bone several times; it produced considerable pain, followed by a discharge of blood.—Hence the injuries, and the operation referred to. From common report, this " Madame Restell" has been driving a brisk business in her line in New York, and from her advertisements it would seem with the greatest audacity. For a long time she contrived to escape the hands of justice; but from the exposure of her conduct by Professor Bedford in the present case, there is reason to hope she will yet reap her reward; indeed, we learn from the New York papers that the Grand Jury has already presented her to the Court, so that she will very shortly have an opportunity of proving her innocence—*if she can.* From the newspapers it also appears that several other persons have recently been convicted in that city, for similar offences. In Philadelphia, no one has been convicted of that species of murder since Chauncey; one, however, against whom a bill was found by the Grand Jury, some months ago, escaped without trial,—nobody knows how!—*The Medical Examiner.*

TEST FOR STRYCHNIA.

When a very small quantity of strychnia is triturated with a few drops of concentrated sulphuric acid, containing one hundredth of its weight of nitric acid, the strychnia disappears; but, if a little peroxide of lead be added, a fine blue colour immediately appears, which rapidly passes to violet, then gradually to red, and finally, after a few hours, becomes yellow. Hitherto no substance has presented this reaction. M. Marchand states that, by means of this process, 0 gr. 00005 of strychnia in solution may be detected.—*The Chemist.*

MIDWIFERY.

Double Vagina and Cervix Uteri; Section of the Vaginal Partition; Delivery by the Forceps.

On the 27th August 1843, M. Lesaing was sent for to a woman who had been two days in labour of her first child. Her menses appeared at the age of 15, and had since regularly recurred every three weeks, without pain, continuing only for a day. The pains were frequent, and sufficiently strong; a small quantity of turbid fluid had escaped; the os uteri, probably on account of the obliquity of the organ, could not be reached by the finger. The labour continued stationary, although recourse had been had to bleeding and the warm bath; the pains were acute and of sufficient duration.

M. Lesaing, after examining the patient, discovered, behind the pubis, a semi-lunar swelling (bourrelet) which he at first conceived to be the cervix flattened and relaxed, but as it communicated with no cavity, he was soon undeceived; desirous, however, of ascertaining the nature of this swelling, he had recourse to the speculum, and used one made of crystal. After a long search, he could discover nothing but the above-mentioned swelling, in the centre of which was a grey spot, the third of an inch in diameter, with jagged edges; this spot had probably been produced by the nail, in the attempt to rupture the membranes.

Having no doubt that an anomaly existed, M. Lesaing examined the external parts more carefully, and discovered an anormal passage, through which his finger passed into a large cavity, in which was placed the head of the fœtus, surrounded with a crescent-shaped swelling, which he recognised as the half of the cervix uteri, the other half being compressed between the head, and the linea innominata. This swelling formed a half circle, the direction of which towards the left side was very oblique; the head presented in the first cranial position, and had just entered the brim. This anormal opening had its site about the centre of the vulva, on a level with the meatus urinarius, and between the labia majora and minora of the left side: it was round, puckered towards the circumference, formed by the mucous membrane, and about half an inch in size.

Having again passed his finger into the canal, and somewhat enlarged it, and having satisfied himself of the dilatation of the os uteri, its obliquity towards the left side, the rupture of the membranes, and the position of the head, M. Lesaing endeavoured to discover a communication between the small anormal and the other passage, and found one near the neck, which was so small that it scarcely admitted the extremity of the finger. On introducing the index finger of the other hand into the other canal, the two met. These two passages were completely separated by a fold of mucous membrane which extended from the os uteri to the vulva, divided the vagina into two portions, for the space of 8 or 9 centimetres, and was afterwards lost in the large labium of the left side. As we have already stated, an os uteri corresponded to the small opening, through which it was impossible the head could pass, whilst that which corresponded to the larger opening of the vulva terminated in a cul de sac. The introduction of the penis could have been accomplished only through the latter, and the transmission of the semen to the uterus must have taken place through the small opening situated at the superior part of the membranous division, and by means of which the two passages communicated. At each pain a small quantity of yellow fluid escaped from the canal. Such was the perilous situation of this woman. M. Lesaing continued the use of the baths, in the hope, not of hastening the labour, but of preparing the passages, and rendering them elastic.

When he again saw the patient in the evening, he found her in great anguish: the head of the child had not changed its position; the pains and contractions were so strong as to threaten rupture of the uterus. The pulse was small and feeble; the abdomen swelled, especially towards the left iliac region, where the head of the child could be felt; in fine, all the symptoms had become aggravated. M. Lesaing now determined to divide the vaginal partition, seeing there was no other way of terminating the labour, and saving the life of the mother and child. Fearing that serious hemorrhage might occur, M. Lesaing determined to apply two ligatures, and divide between them with a pair of scissors. We give the description of the operation in his own words.

"I caused the woman to recline on the edge of the bed, with the limbs apart, and the pelvis raised. Having again examined the parts, and passed a sound into the urethra, to satisfy myself that it had no communication with the vagina, I placed a waxed thread on the extremity of the index finger, passed it through the anormal opening, as far as the neck of the uterus, at which point I reached the lateral fissure of the partition; passing it through this I carried it towards the external orifice, and seized the thread with the fingers of the other hand, which I had previously introduced. I tightened the thread a short way below the meatus urinarius. A second thread was passed, and tied as near as possible to the perineum. I then passed my fingers behind the included membrane, and divided it with the scissors. The os uteri was very much dilated, but lying so obliquely towards the left side, that only the half of it could be reached with the finger."

M. Lesaing then placed the patient on her side, with the view of endeavouring to get the uterus into its natural position, and waited several pains, in order to satisfy himself of their effect. An hour passed without any change in the position of the head; while all the symptoms had become aggravated. Being then convinced that the powers of nature were insufficient to expel the child, and that a longer delay would be hazardous to mother and babe, the mucous membrane having become dry and hot, and inflammation threatening, M. Lesaing determined to use the forceps. Their application was easy, and a small delicate female child was brought forth. It was in a state of asphyxia, which yielded to the proper remedies. The delivery was otherwise favourable, and on the twentieth day the woman was completely restored.

M. Lesaing afterwards satisfied himself that there were two necks to the uterus. They were close to each other, and must have been united by a thin membrane previous to the rent caused by the process of dilatation. The neck of the right side was smaller than that of the left, and situated posteriorly. They were situated very obliquely towards the left side, at the extremity of the vagina, whose only orifice was the small canal formerly mentioned, whilst the vagina which had a normal opening terminated in a cul-de-sac.—*Gazette Médicale de Strasburg*, quoted in *Encyclographie Médicale.*

VAGINAL OCCLUSION FOLLOWING DELIVERY BY THE FORCEPS.—CURE BY OPERATION. By W. J. SQUARE, Esq., Surgeon to the Hospital, Plymouth.

Mrs Tremeer, aged 34 years, admitted into the South Devon and East Cornwall Hospital, on the 1st of March 1843. She is well formed and of healthy aspect. Three months since she was delivered by the forceps of her first child, after a very protracted and painful labour. Although she suffered from a considerable purulent discharge from the vagina, no suspicion of injury to that canal was entertained until she slept with her husband about six weeks after her accouchment. On examination of the vagina, it is found to be quite closed by firm cicatrization, at about an inch from its orifice. The surface of the cicatrization is puckered up like the end of a purse, and about the centre of it is a dimple or depression. The finger in the rectum does not recognize any extensive tract of induration in the vagina.

From this examination, in which I was assisted by my colleagues, Messrs Derry and Whipple, I concluded that the vagina was not cicatrized from the orifice to the os uteri, but that there must be a cavity, consisting of the upper portion of the vagina beyond the cicatrix. Strongly impressed with this idea, I pushed a blunt probe against the dimpled part of the cicatrix, and penetrated it, the septum appearing to be about half or three quarters of an inch in thickness.

March 3d. A wax bougie (urethral) No. 6, passed through the opening made by the probe. No menstrual fluid above the obstruction.

March 5th. No. 8 urethral bougie passed.

March 7th. No. 10 ditto passed.

March 8th. Menstruation established.

March 10th to 30th. For the last three weeks I have endeavoured to dilate the cicatrix by bougies and sponge tents; but the attempt has been so painful and inefficacious, that I have given up further attempts at dilatation, and determined to wait for the departure of the next catamenial discharge, and then perform an operation for her relief.

April 20th. A few days since she had pain in her back for some hours, but menstruation has not taken place. Having introduced a female catheter through the opening previously made, no discharge either followed its removal, or was entangled in the eyes of the instrument.

April 22d. With the advice and concurrence of my colleagues I performed the following:—The patient was tied as for lithotomy. The fore finger of the left hand was introduced within the rectum so as to depress it towards the sacrum. A straight bistoire cachée, set at an inch, was passed through the opening in the cicatrized vagina, and the blade being directed as in the lateral operation of lithotomy, sprung and withdrawn. An immense gush of dark grumous liquid followed this proceeding. The finger now discovered the upper part of the vagina to be dilated into a large oval sac, with a healthy os uteri at its upper part. The cicatrix was now divided on the right side in the same direction, by a probe-pointed knife. A large cylinder of oiled lint was introduced within the vagina, and the patient removed to her bed. *Vespere.* The plug forced out by ineffectual efforts at micturition. Bladder distended; considerable fever; urine drawn off. Ordered:—*calomel, four grains; opium, one grain and a half at bed-time. Poultice to the belly. Saline mixture with tincture of henbane. Plug of lint not re-introduced.*

April 23d. More comfortable—urine again drawn off—plug re-introduced.

April 24th. A wooden plug introduced within the vagina and retained by a bandage.

May 20th. From time to time there has been some febrile excitement, with hysteric combination. The wooden plug excites a good deal of purulent discharge. Ordered:—*Compound alum enema three times daily.*

Disulphate of quinine ℈j. Diluted sulphuric acid ʒij. Water ℥xij.

Two table spoonfuls to be taken three times a-day.—Meat diet, with beer.

June 4th. Discharge much less. Wound red and vascular, not granulated. A gum elastic rectum bougie substituted for the wooden plug, and retained four hours every morning. Walks out of doors.

July 20th. The same treatment has been steadily pursued. The vagina does not contract. There is scarcely any discharge. Health and spirits good. No catamenial discharge has appeared.

August 20th. Treatment continued to this date. Has had sexual intercourse without much pain; catamenia absent.—*Discontinue the injection and quinine, continue the use of the bougie.*

September 21st. Has had frequent sexual intercourse, and there is now little or no pain. No discharge; no menstruation.

November 1st. The vagina has no tendency to contract. Catamenia absent. —*Continue the bougie.*

Feb. 10th. I heard from a friend of hers that she is quite well, but could obtain no particulars as to menstruation, &c.—*Prov. Med. Journal.*

SUCCESSFUL REMOVAL OF THE UTERUS BY LIGATURE.

By JONATHAN TOOGOOD, M.D., Bridgewater.

About 16 years ago, I was requested to visit Miss L., aged about 40, who was represented to be suffering from a considerable swelling, which prevented her from passing any water. The introduction of the catheter was rendered somewhat difficult from the protrusion of a large mass from the vagina, but after a little time I succeeded in drawing off between two and three pints of water, and then proceeded to make a more accurate examination. I found that the uterus was completely prolapsed, and hanging down between the thighs. There was not much difficulty in returning it, or retaining it in its natural situation, by a large globular India-rubber pessary, which I directed to be removed occasionally and replaced. I heard no more of my patient for three years, when I was again desired to see her, on account of a profuse and most offensive discharge, which had existed for some time. To my very great surprise I discovered that the pessary had never been removed, which at once explained the cause, and I was actually obliged to deliver her of it with the forceps. From that time, as I subsequently learned, it never was replaced, consequently the uterus was frequently coming down, and prolapsing beyond the external parts, and she had acquired the habit of returning it by sitting over an open space, and pushing it back with the fingers. This course was pursued until the 13th of April last, when it came down, and after making repeated ineffectual attempts to return it for three days, she sent for my late partner, Mr Parsons, who gives me the following statement:

"On Wednesday, April 17th, I was sent for to see Miss L., a maiden lady, nearly sixty years old, whom I had before known to be suffering from a prolapsus of the womb; on my arrival I was informed that this had come down on the previous Saturday during a violent fit of coughing, and that all her attempts to reduce it had failed. On examination, I discovered a very large protrusion, of a pyriform shape, and extending from the vagina to at least 7 or 8 inches. The surface was not very sensitive, but was of a red, florid colour, and in some parts ulcerated and ecchymosed from repeated attempts to effect its reduction, and from which some hemorrhage occasionally occurred. Every attempt on my part to return it being fruitless, I ordered some leeches and cold applications to be used, hoping, in a day or two, by these means, to reduce its bulk, so as to enable me to return lt. None of these remedies, however, succeeded, and, as on a more careful examination, I discovered that the neck of this large mass, as it entered the vigina, rather diminished in size, I requested a consultation with my friend Mr Toogood, who had formerly attended the patient, who agreed with me on the practicability and safety of removing the whole by ligature. Accordingly, on Sunday the 21st, we applied a ligature very firmly round the neck of the swelling, just within the vagina, and took away the protruded part immediately.

"The mass removed was almost 2 lbs. weight, the shape of the uterus, but its structure much altered in character, the cavity being quite obliterated, and the os uteri become almost cartilaginous. No bad symptoms ensued, and she told me yesterday, the 22d, that she was as well as when she was sixteen.

"On examination, no uterus can be discovered, but the vagina seems to terminate in a short cul de sac."

I advised the operation with the greater confidence, from having, in the course of my experience, known two other cases in which the whole body of the uterus was removed by ligature, without any immediate danger; but as these cases were not my own, I know nothing of the details or ultimate event of either.—Abridged from the *Prov. Med. and Surg. Journal* for 10th July 1844.

CASE OF RUPTURE OF THE UTERUS. BY JOHN H. GRISCOM, M.D.

Dr G. was sent for by Dr Nichols, on the 3d of September, at half-past one P.M., to see with him a case of obstetrics, in the person of Mrs Nelson. Dr N. stated, on Dr G.'s arrival, that she had had slight pains all the previous night, but that she had not sent for him until 8 A.M. He found the head presenting low under the pubes, and moveable; the labour pains moderate, occurring in regular intervals; and the woman apparently in good spirits and strength. In about an hour and a half after his arrival, say at 10 o'clock, the pains ceased, having been *gradually diminishing* for some time. The head remained in the position described, the efforts of the uterus having had no effect upon it. He waited patiently for a return of the pains, till Dr G. was sent for, who found the patient on her back, with the head and shoulders well raised, the countenance pale and rather anxious, pulse 160, small, but with a degree of tension. On laying the hand upon the abdomen, it was found so exceedingly tender to the touch, as to render a full examination almost impracticable. A peculiarity was, however, observed in the position of the uterus, *i. e.*, it appeared to be thrown forward much more than is usual at the fundus, and to be of smaller size, and more distinctly perceptible to the feel, than is common before delivery. The fœtal head was in the position before stated, and there it had been for several hours. The condition of the patient was such as to render a speedy delivery urgent, and the forceps were consequently employed with the least possible delay; but after they were fixed, the strongest efforts were insufficient to move the head from its position against the pubis, even with the additional aid of the single blade introduced under the arch. While making these efforts, upon laying his hand upon the abdomen to aid the removal of the child by pressure above. Dr G. discovered at the left side, a limb of the child projecting through the uterus, and lying in contact with the abdominal parietes. The terrible nature of the case, and the cause of the suspension of the pains, were now both at once apparent. Renewed efforts were made to extract by the forceps, but this proved hopeless, in consequence of their slipping; and as immediate delivery was absolutely necessary, turning was resorted to, which was speedily effected by Dr Nichols. The feet were grasped in the abdomen, outside the uterus, and the fœtus was extracted with the placenta attached, but too late to save the mother, who expired while the head was passing through the vagina.

The rupture was upon the left side, involving the fundus; and from the gradual subsidence of the pains, it must have been one of the cases described by Ramsbotham, as commencing with a small opening, and gradually enlarging as the labour continued. There was no sudden cessation of the pains, nor was there any complaint by the patient of something giving way, nor indeed of anything else, except general pain and vomiting, by which the nature of the case could at once have been determined, or even suspected.—From *New York Journal of Medicine*, for May 1844.

PART FOURTH.

MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.—NEW AND OLD BUILDINGS.

On the 8th of August last, the foundation-stone of a new building for this body was laid by their president, Dr Robert Renton, in presence of the Fellows of the College and others. As is customary on such occasions, a bottle containing various memorials, was deposited in the stone. In this instance there were, 1st, A copy of the last edition of the Edinburgh Pharmacopœia, containing a list of the Fellows of the College; 2d, A work regarding the private affairs of the College, printed several years ago; 3d, An Edinburgh Almanack for this year; 4th, Several British coins of the day; and lastly, a silver plate with a suitable inscription in Latin relative to the occasion. After the ceremony the Fellows adjourned to the house of the President, where they partook of an elegant luncheon. The New College is in process of erection in George Street. The architect is Thomas Hamilton, Esq., whose plans, which we have seen, appear to combine, in a high degree, useful, as well as elegant accommodation.

To those who took an interest in the old Physicians' Hall, in George Street, from which the College has been driven by the encroachments of trade and commerce, it may be worthy of notice, that during the removal of that building, which is now numbered with the things that were, the foundation-stone was discovered in May last. A well-cut inscription on this interesting relic sets forth that it was laid by the hands of the late Professor Cullen, so long a distinguished ornament of the Edinburgh University, on the 27th November 1775. Inclosed in the stone, a bottle was found, containing, 1st, A parchment roll on which are beautifully inscribed the names of the Fellows of the College at the time; 2d, Several British coins of date 1771; 3d, A silver medal, representing on the one side the future College, surmounted by the words, "ARTI SALUTIFERAE SACRUM," at its base the serpent entwined round a club; on the other side,—

AEDES
COLL. REG. MED.
EDINB.
HIC POSITAE
XXVII NOV. A.D. MDCCLXXV
CURANTE PRAESIDE
GULIELMO CULLEN
ARCHITECTO
JAC. CRAIG

4th, Another silver medal, having the arms of the city of Edinburgh on the one side, and, on the other, an inscription, bearing that this memorial had been presented to Mr Craig, architect, by the Council of the city of Edinburgh, in compliment to his professional talents, in the year 1767. It is as follows :—

JACOBO CRAIG
ARCHITECTO
PROPTER OPTIMAM
EDINBURGI NOVI
ICHNOGRAPHIAM
D . D
SENATUS
EDINBURGENUS
M·DCCLXVII

These interesting relics of an age gone by are now in the possession of the College, and they are to obtain a place, it is believed, in their museum. We very much regret, however, to understand, that the foundation-stone, which is a handsomely executed piece of workmanship, and to which much interest, especially among medical antiquaries, must ever attach, by a mere oversight of the College, is not at present in their possession. We know, however, that they are very desirous it should be, and sincerely hope that they will yet obtain possession of this highly appropriate memorial, of which they are the natural custodiers; and by none can it be so well appreciated as by the actual successors of that great man whose name it bears.

MECHANISM OF VOMITING.—LETTER FROM DR ANDERSON TO DR MARSHALL HALL.

Fort-Pitt, Chatham, 16th September 1844.

Dear Sir,—I beg to lay before you the following observations, in reply to your note in the September number of the Monthly Journal.

Either you yield to the conclusiveness of my experiments, as defended in the second paragraph of my letter, or the only remark you offer in opposition, is the following sentence:—"I suppose the act of vomiting, and of expiration generally, to consist in the simultaneous action of the intercostal and abdominal muscles." But this is a mere re-statement of your theory of the mechanism of vomiting, without argument or support of any kind, except, perhaps, your placing together, as parallel actions, the acts of vomiting and expiration. Analogical reasoning, however, becomes valueless when opposed by the evidence of actual experiment.

What next follows refers to my third paragraph. You admit, that if the diaphragm during the inspiration, which precedes the act of vomiting, really becomes a perfect plane, (which you much doubt), it may certainly act as I say, and narrow the chest. Now, I nowhere hold that that muscle becomes a *perfect* plane; nor is it necessary that it should do so. I state, merely, that in the full inspiration which precedes the act of vomiting, the diaphragm is brought *nearly* to a plane; and as, during the effort which immediately follows, the resistance offered by the viscera propelled upwards against that organ by the abdominal muscles, impedes its further descent, its fibres, continuing to shorten themselves, of necessity approximate the ribs, narrow the chest, and compress the stomach as well as the lungs.

You write the following postscript:—"I think you will perceive that the phenomena of vomiting remain as I have described them,—phenomena of expiration *preceded* by inspiration." So you did indeed describe them; and against this description, *as far as it goes*, you cannot show that I have written a single word. Lieutaud, as far back as the year 1752, described vomiting as an act of expiration;[1] and all violent efforts of an expiratory character are well known to be necessarily preceded by a deep inspiration. The novelty of your theory consisted in your viewing the intercostal and abdominal muscles as the sole agents, and describing the diaphragm as passive and inert; and it is built entirely upon the supposed incompatibility of contraction of the diaphragm with an expiratory effort. But I have shown that contraction of this muscle is not only reconcileable with, but may even materially assist, an expiratory effort; and therefore the phenomena of ordinary vomiting, of œsophageal vomiting, and of vomiting from the stomach in cases where this organ lies in the cavity of the chest. You have, I farther maintain, not succeeded in explaining, by your theory, Boisseau's cases of laceration of the diaphragm. Moreover, my experiments appear decisively to prove that the diaphragm does contract in the effort of vomiting. Is it, then, astonishing that I cannot accede to your theory?

In reference to the question, whether your writings, previously to your letter of the 15th of last January, do or do not express a disbelief in the diaphragm's participation in the production of the ingurgitation of air into the œsophagus, during the state of nausea, I beg you will pardon me if I still adhere to the opinion stated in my paper. And this I have the less delicacy in doing, seeing that there is, in your last letter, an unequivocal instance of forgetfulness of a former statement. In your former letter you write the following extract from your published lecture:—"It is not improbable, too, that in some instances of vomiting, in which the action of the abdominal muscles was subtracted, a similar effort of inspiration has drawn substances from the stomach into the œsophagus, which has eventually expelled them by an inverted action;" and you then add,—"It is of *these two* actions that I have said, 'Neither of these phenomena could result from any action of the *diaphragm*.'" But, in your last letter, you state that a contraction of the diaphragm "might draw food from the stomach into the œsophagus." It is evident that these two statements are directly contradictory. In regard to the first sentence of that part of your note which relates to the fourth paragraph of my letter, a reference again to that paragraph will show, that it was because I considered the two clauses alluded to parenthetical, that I thought the words, "these phenomena" *not* to refer to them, but to the *two leading phenomena* mentioned. Your referring the inability of the abdominal muscles to expel substances from the œsophagus, to their action having been subtracted in the cases referred to, certainly meets the remarks contained in the last three sentences of paragraph 4, but, nevertheless, does not at all vitiate the conclusion advocated in the remarks which precede them. Permit me again to draw your attention to the debated part of your memoir. "Neither of these phenomena could result from any action of the diaphragm, and much less from contraction of the abdominal muscles; *but*,"—and here you appear to indicate the phenomena you allude to, by proceeding to mention what *could* produce them, in contrast with action of the diaphragm, and contraction of the abdominal muscles, which you had just stated to be inadequate to their production,—"but it is easy, by closing the larynx and attempting to inspire, to draw air into the œsophagus. A similar act, if very forcible, might draw a portion of the contents of the stomach through the cardiac orifice." The inference that you did not consider the diaphragm to take a part in the inspiratory act, which causes the ingurgitation of air into the œsophagus, appears so natural, that it surely required no garbled quotation on my part to support it. In fact, I adduced *no* quotation in reference to it. I gave only one extract from the paragraph in question, viz., the *general terms* of your explanation of the distention of the stomach. The part which immediately follows, being what you considered the probable manner in which vomiting took place, in cases where the action of the abdominal muscles was subtracted, was not considered a portion of that explanation, though adduced in support of it. That you did not consider the diaphragm to have any share in the production of the distention of the stomach with air during nausea, was the impression left on my mind by the first perusal of the paragraph; and I am still of opinion that such is its legitimate meaning. I am, Dear Sir, your's truly, DAVID ANDERSON.

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[1] "Il n'y a donc que la diaphragme qui puisse exercer cette pression sur l'estomac; mais il est très-aisé de s'assurer qu'on ne vomit que dans le temps de l'expiration, c'est-à-dire, lorsqu'il est dans le relâchement."—*Vide Mém. de l'Acad. Royale des Sciences*, t. 68, p. 230.

To MARSHALL HALL, M.D., F.R.SS.L. & E., &c.

BOOKS RECEIVED.

(Continued from p. 912 of the September Number)

77. Guy's Hospital Reports. *(Second Series.)* No. IV. Oct. 1844. Edited by G. H. Barlow, M.A. and M.D. Cantab.; Edward Cock, Esq.; Edmund L. Birkett, M.B. Cantab.; J.H. Browne, M.B. Londin.; and A. Poland, Esq.

We have not been able in our present number to give abstracts of any of the papers; but we will immediately peruse them, and select for the Periscope what seems of most importance. In the mean time, we subjoin a complete list of the contents:—1. On Poisoning by Opium. By A. S. Taylor, Esq. 2. On Digitalis in Diseases of the Heart. By Dr Munk. 3. On Iritis. By J. F. France, Esq. 4. Account of a Specimen of Partial Fracture of the Neck of the Thigh Bone, and of the proper source of nutrition of the Head of the Bone. By T. W. King, Esq. 5. On Paracentesis Thoracis. By Dr Hughes. 6. Clinical Reports. By Dr Barlow. 7. Case of Narrowing of the upper part of the Small Intestines, with diminished secretion of Urine. By Dr Lever. 8. Medical Reports from the Clinical Wards. By J. C. Brereton, Esq. 9. Report of Cases of Injuries to the Abdomen. 10. Abstract of the two half-yearly Reports of the Clinical Society, for 1843. By E. L. Birkett, M.B.

78. The Educational and Subsidiary Provisions of the Birmingham Royal School of Medicine and Surgery, set forth in a Letter to the Rev. Dr S. W. Warneford, LL.D.; being intended to show the importance and practicability of applying the means actually possessed to some arrangement for providing Collegiately for the board, lodging, and tutelary care of the pupils, during their residence at Birmingham, for the purposes of study. By the Rev. Vaughan Thomas, B.D., Vicar of Stoneleigh, Warwickshire. 8vo, pp. 65. Oxford: 1843.

The Rev. author's pamphlet contains much important matter for reflection; and is calculated, we trust, to give a proper bias to what is doing or may be done to improve the education of medical practitioners. We wish every possible success to the Birmingham School, because it is evidently not only an efficient institution, but one also established on a proper basis.

79. The Principles of Surgery. By James Miller, F.R.S.E., F.R.C.S.E., Professor of Surgery in the University of Edinburgh, and Surgeon to the Royal Infirmary. 12mo, pp. 716. Edinburgh: 1844.

Reviewed at p. 957 of this Number.

80. Outlines of Military Surgery. By Sir George Ballingall, M.D., F.R.S.E., Surgeon to the Queen, Professor of Military Surgery in the University of Edinburgh, &c. &c. *Third Edition.* 8vo, pp. 568. Edinburgh: 1844.

We are glad to see a new edition of this valuable and popular work, to which on another occasion we will more particularly advert.

81. Elements of Sacred Truth, for the Young. By John Abercrombie, M.D., &c. &c. &c. *Part I.* 18mo, pp. 97. Edinburgh: 1844.

"The desire of the author is to bring together, in a simple and connected form, the leading truths of natural and revealed religion, with an outline of Christian evidence, taken in connexion with the Christian faith."—*Author's Preface.*

82. A Manual of Elementary Chemistry, Theoretical and Practical. By George Fownes, Ph. D., Chemical Lecturer in the Middlesex Hospital Medical School, &c. 12mo, pp. 566. London: 1844.

We recommend this as a text-book for pupils attending lectures. There are numerous instructive wood-engravings.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the Royal College of Surgeons, held on Wednesday the 16th inst., the following office-bearers for the ensuing year were chosen:—James Simson, M.D., President; Alexander Macaulay, M.D., Treasurer; Robert Omond, M.D., Librarian; Henry Goodsir, Conservator of Museums.

TO CORRESPONDENTS.

COMMUNICATIONS RECEIVED, AND TO BE INSERTED.—1. On the Treatment of Typhus, and its Complications; or an Estimate of the various Therapeutical Means employed for its Cure. By William Davidson, M.D., lately Senior Physician to the Glasgow Royal Infirmary. 2. Case of Icthyosis Intra-Uterina. By William Smellie, M.D., &c., Stronsay, Orkney. 3. A Series of Surgical Cases. By P. D. Handyside, M.D., lately surgeon to the Royal Infirmary of Edinburgh.

ALL PAPERS RECEIVED for which we could not find room have been returned to their authors.

MANY PROMISED CONTRIBUTIONS have not come to hand. We beg to remind our friends, that, in general, priority of publication is determined *by the order in which papers reach us;* at the same time, we may state that it is very convenient for us to know what papers we may expect to receive, especially when they are long.

INDIAN READERS are informed that our Journal is now *sent regularly by the overland mail to Calcutta and Bombay;* and that we are endeavouring to establish an agency in Madras. Messrs Thacker and Company, of the St Andrews Library, are our agents in Calcutta; and Mr Jameson is agent at Bombay. *The annual subscription in India is* 18 *rupees.*

FOREIGN AUTHORS frequently send us copies of works which never reach us. Our only authorised agents in Paris are Messrs Fortin, Masson, and Cie; in Calcutta, Messrs Thacker and Co.; and in Bombay, Mr Jameson. Books sent through them, or through Messrs Wiley and Putnam of New York and London, always reach us expeditiously. We have reason to believe that many periodicals and other works are never taken from the Custom-House, as the parties to whom they are consigned do not choose to advance the duty and freight.

MEDICAL REFORM.—We have received the resolutions of various public bodies in reference to this subject, with a request to insert them in the body of our Journal. We beg to say that the space which we can allow is very limited, and that what we propose to do in reference to these resolutions, is, by-and-by, to give a summary of the whole of them. The resolutions themselves, we are obliged, in self-defence, to say, can only appear in our advertising department.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Treatment of Typhus, including its Complications, or an Estimate of the various Therapeutical Means employed for its Cure. By* WILLIAM DAVIDSON, M.D., *lately Senior Physician to the Glasgow Royal Infirmary.*

THE treatment of Typhus is by many considered a subject upon which little novel or interesting matter can be advanced, as it has been so frequently discussed by able and experienced writers. At the same time it must be acknowledged, that a greater diversity of opinion prevails upon this subject and its pathology than on many other diseases of a similar kind, thus showing the necessity for farther investigation. This contrariety of practice tends to prove the accuracy of the opinion now entertained by many sound observers of disease, that treatment of any kind has less power over the malady than many authors would lead us to believe; for when nearly the same successful results follow several of the plans of treatment, the deduction is not very wide from the truth, that neither had any peculiar influence.

Inaccuracy of classification, a disregard of induction, or an ill-regulated ardour in the pursuit of discovery, have often bewildered the conclusions of medical writers, in regard to the merits of some peculiar method of cure, and have been the cause of much of the mysticism with which this subject is invested. It is not enough that a writer can bring forward 50 or 100 cases of fever, and state the proportion of deaths as one in 10, 15, or 30 cases; he is entitled to show that these were all genuine instances of typhus, and that their ages, habits, &c., did not differ from the average of those generally met. Neither is a small amount sufficient. The fallacy of drawing conclusions from even a considerable number of cases, we can well exemplify from our own experience, in the Glasgow Fever Hospital. From 2d November to 11th December 1838, there were admitted into the Fever Hospital 51 females as fever patients, (the remainder being small-pox and scarlatina), 29 of whom had the typhoid eruption; but no deaths occurred. From 1st to 29th November, 28 males were admitted as fever cases, 16 of whom had the eruption, with only one death. If any conclusion at all be drawn from these facts, it must be in favour of the mild, and what some might be disposed to call an almost expectant method of treatment; for gentle diaphoretics, occasional purgatives, careful regulation of the drink, diet, and ventilation, sponging of the whole body once a-day with tepid water, and the exhibition of wine when there was much prostration of strength, were, with one or two exceptions, all that was resorted to. The number of cases is, however, too small, and the variety of individuals and circumstances in which they were placed too limited, for drawing any general deduction; and the same holds good with almost all the published results of our large hospitals. Although, therefore, the circumstances upon which a successful practice ought to be based are still not so clearly ascertained as might be desirable, some principle or principles may be laid down, as the result of observation, which may guide us in our treatment; but we can offer nothing conclusive in point of statistics. It may be laid down as an axiom in our profession, that all diseases are not alike amenable to treatment, and that in some the influence of art is very immaterial, even when applied with caution and judgment; or if these duties be neglected, injury instead of good may be the result. Although the fatal and uncontrollable fatality of small-pox, fever, plague, consumption, &c., be a sufficient proof of this principle, medical men seldom afford it a sufficient practical bearing upon their treatment; while the so-called heroic, but often mischievous operations of some, instead of aiding nature, often render her efforts inefficient or powerless. Few of our wide-spreading epidemics can be checked *in limine;* and although in their commencement there is violent reaction in the system, indicating much power, the latter is in almost all cases found greatly deficient, before the revolutionary movements have been completed. And do not the results tend to prove the truth of our position? Is not the patient uniformly found weak and emaciated, much of the *vital fluids* being consumed during the intensity of the fever. In such diseases, therefore, both theory and experience warrant us in asserting, that any great evacuation of the vital fluids must curtail the strength, and, consequently, the patient's chances of contending against the disease. It may be argued, however, that the same results accompany the pure inflammatory diseases, in which blood-letting and other evacuations are absolutely required; but the answer is obvious; these can be checked in their progress, whereas the latter have a certain course to run before they terminate, and during that period require ample supplies of vital principles. The medical profession, in our opinion, has been much lowered in its philosophical character by the too prevailing belief, that every acute disease is under the mastery of active treatment,—a fallacy which the statistics of diseases in every civilized country sufficiently demonstrate. Notwithstanding these stubborn facts, it has a deep-rooted belief among the people, and has generated an insatiable appetite, in many districts, for medicines of a heroic character, and an admiration of the physician who is almost incessantly inflicting upon his patient some annoyance, either of a medicinal or manual description. This doctrine will be considered by some, perhaps by many medical men, as overstrained, and tending to induce scepticism in the powers of remedial measures. No such result would happen from a just and sound appreciation of the facts; indeed the very opposite, in our opinion, would occur. 1. Because true philosophical deductions respecting the mortality of diseases would raise medicine to its proper standard as a science, would tend to prevent misconceptions on the part of the public, and would be the best method of testing any new remedy, or new method of treatment. 2. Every disease of a decided character requires hygienic, dietetic, and, in almost all, more or less of medicinal treatment, (even those very affections that are admitted to be little under the controul of art, with regard to their mortality,) for the very plain reason, that many or all of the functions of the body are deranged, and therefore require to be regulated as far as this is in our power. 3. Homœopathy, with its mantle of pseudo-philosophy, would be clothed with its natural apparel, viz. that of empiricism, and its pretended cures shown to be the work of nature, in place of the operations of art; while its failure in diseases, decidedly under the control of treatment, would be palpable and convincing. Although, therefore, we hold the opinion, that in several epidemic, and some other affections, medicine has only a very limited power over them, we are far from thinking active medical treatment inefficacious in checking the progress and mortality of a numerous class of diseases; but we do not hesitate to say, that were it less so, or even restricted to those where medicine was only calculated to guide the disease, by regulating the functions, or supporting the strength and alleviating pain, the medical profession would still be noble and philanthropic, and worthy of being followed by enlightened and scientific men. Having thus generally expressed our opinion respecting the misconceptions which prevail respecting the cure of fever and other intractable diseases, we shall now take a review of the measures usually employed in the treatment of typhus, and endeavour to appreciate their value, in as far as our experience enables us to judge. It would be here entirely out of place to examine the various theories which have been given respecting the origin and pathology of typhus; but as all enlightened practice must either be based upon a solid view of its nature, or be capable of thorough reconciliation with it, we consider ourselves entitled to bring forward our opinions on this subject. Almost all writers worthy of notice ascribe the origin of typhus to some effluvia, or imponderable matter, which is absorbed into the system. It is not essential, as far as our present purpose is concerned, to determine whether the effluvia arise from animal and vegetable substances, in a state of decomposition, or be the result of contagion, provided it be admitted that the principle absorbed is poisonous, in its effects, upon the human system. How, then, does the poison operate on the system; and what are its effects? Some modern physiologists consider that a process of transformation, analogous to fermentation, is excited in the blood during fever, and that this continues until the process is completed. This theory has much plausibility, and even some probability, attached to it; for the blood is materially altered in chemical constitution, and this view explains, in a more satisfactory manner than any other, some of the laws of the disease, viz. its regular rise, progress, and decline, and the future exemption from attacks. Be this hypothesis, however, admitted or not, the researches of modern chemists have satisfactorily determined that the blood is essentially altered. Thus it has been found that the clot is soft and the fibrin smaller in quantity, the globules are increased in quantity, and the cruor is dissolved in the serum, colouring it red, and being precipitated from it in the form of a powdery sediment. These are by no means the characters of inflammatory blood, although it is held by some authors that a tendency to inflammation exists in typhus fever; the passive congestions, which frequently occur, being mistaken for inflammatory engorgements. For it has been shewn by Majendie that congestions, petechiæ, sub-mucous and sub-epidermic hemorrhages, are most liable to occur when the proportion of fibrin is diminished, a state very characteristic of the pathological phases of typhus. If typhus be owing to the presence of a poisonous principle in the blood, are we in possession of any means for its speedy expulsion from the system, or must we wait for the spontaneous subsidence of its action, according to its own determinate laws? We fear, as we shall endeavour to shew by and bye, that no means, whether mild or heroic, have the least effect in checking its progress, although there may be some which tend to lessen its intensity, or regulate its course, or keep the vital machinery moving until a crisis is obtained. It is obvious, then, that sound theory will not warrant us to employ any violent remedy which may vitally diminish the powers of the system, without checking or lessening the intensity of the disease; for the vital strength is rapidly consumed during its progress, and our ordinary interference should, in the large majority of cases, be limited to those means which regulate the natural functions of the body and support its strength, and when local lesions occur, these ought to be treated on general principles, with a due regard to the exhausting nature of the disease, and the capabilities of the system.

This, in our humble opinion, is nearly all the length that we can safely go, with our present knowledge of the therapeutics of the disease; but we do not pretend to set a limit to future discoveries, or to assert that some remedy or antidote to this fatal scourge of the United Kingdom, as well as other countries, is not within the range of possibility. Having thus expressed our theoretical views, we shall now endeavour to reconcile them with those practical measures which are found worthy of confidence.

1. *Bleeding.*—A considerable evacuation of blood is believed, by some authors, to have the effect of arresting or shortening the disease, by subduing the morbid excitement, promoting the secretions, the perspiration, and a salutary crisis. That this may occur in some species of fever we do not doubt; but no satisfactory proof has ever been brought forward that true typhus was ever thus arrested. The difficulty of distinguishing the various kinds of fever in their primary stages, must necessarily render this point incapable of demonstration, before unequivocal symptoms of the disease have manifested themselves; but we confidently appeal to the experience of the most sanguinary men in our profession, whether they have been able in a single instance to arrest its progress, by this or any other means, after the characteristic eruption has made its appearance. Reasoning from the analogy of other diseases possessing similar laws, this result ought to be considered unlikely; as in small-pox, in which affection, bleedings were at one period often practised by mistake in the premonitory stages, without arresting its progress. Although, however, we cannot check its course by bleeding, will the disease be thus rendered milder or less likely to end fatally? If this could be established, the practice ought to be hailed with general satisfaction; but even this, with a few exceptional cases, is not agreeable to the facts. At the same-time we are ready to admit that, in young, plethoric, regular and healthy individuals, a considerable mitigation of the symptoms often ensues from the loss of twelve or sixteen ounces of blood; but this amendment is only temporary; and though in such persons, if there be no ædynamic symptoms, no great harm is the result; yet the case is widely different with persons of weak or cachectic constitutions, irregular habits, and in those who have approximated, or are beyond the meridian of life. In such individuals every ounce of blood should be valued at a high price, as essential in carrying on the vital functions during the continuance of the disease. That these opinions are agreeable to a considerable majority of physicians who have treated typhus extensively in large towns, we are warranted in asserting; and it will not be difficult to show, how it is equally consistent with sound theory. If the blood be contaminated with a poisonous effluvium, and if the whole be equally in-

fected,—and there is no proof to the contrary,—the abstraction of a certain portion of it cannot diminish the proportional amount of contamination in what remains; so the series of changes which this fluid undergoes during the progress of the disease will proceed as before to their final termination. But it may be argued that, in proportion to the diminution of the quantity of blood, so much less poisonous matter will be generated. This will of course be the result; but in proportion to the diminution of the poisonous production so will the vital strength that is arrayed against it. Again, it may be asserted, that it wards off inflammatory congestions. These unquestionably are the only real advantages of bleeding; but true inflammation is a rare occurrence in typhus, at least at the periods when evacuations of this kind may be practised with safety. We have already remarked, that passive congestions are very commonly present as a pathological consequence of typhus, such as redness of the bronchial membrane, the mucous coat of the intestines, tissue of the lungs, liver, spleen. &c.; but these are rather to be attributed to the chemical state of the blood, than to a superabundance of this fluid, and bleeding is more likely to increase than to diminish this state. It is different, however, with real inflammatory action in any important organ. This calls for decided depletion, if the case be unequivocal, which ought carefully to be ascertained. What then are the signs of decided inflammatory action occurring during an attack of typhus? It is an important question, and sometimes difficult to determine. In general, however, it will be found that the inflammatory type is predominant over the typhoid, that the blood is more or less buffy, that there is the accompanying pain, and the other general and local signs which attend the disease, as, for example, pleuritis, pneumonia, peritonitis, &c. We now proceed to explain upon what theory we support the entire preservation of the blood in typhus. The most recent physiological researches have demonstrated that a certain amount of carbon is eliminated from the lungs, skin, &c., in twenty-four hours, and that this, in ordinary cases, is furnished by the food taken into the stomach; while, if a certain proportion of aliment be not supplied, this carbon is abstracted from the fat, blood, or tissues of the body. During the presence of typhus and other febrile diseases, the combustion of carbon in the lungs must be very considerable, although the supply of food is very small, at least its digestion; hence the quantity of blood in the system must be rapidly abstracted: and this occurs simultaneously with the operation of a deleterious poison, which has a tendency to derange and depress all the vital functions of the body. Typhus is also often a protracted disease, and hence in such cases the argument is insuperable; for the emaciation and prostration of strength are often extreme. If bleeding then cannot check the progress of the disease, or render it milder, in the large majority of cases it becomes unsafe, in as far as it diminishes the amount of that vital fluid which is rapidly consumed during fever, and which is especially essential during the latter stages of the disease. It ought, therefore, to be practised with caution, and not until all the circumstances have been well weighed; but if, after a thorough examination of the case, a dangerous determination of blood or inflammatory action be discovered in any important organ, it ought not to be withheld, for the immediate may be greater than the remote danger.

Emetics.—At one period vomiting was very generally, nay, almost universally employed in the commencement of fevers, and popular opinion still strongly favours the administration of emetics as a means of checking the disease. These may, perhaps, have the effect of sometimes limiting the duration of simple and catarrhal fevers, or may render them milder; but in typhus they have no such effects, for no unequivocal case of the disease, such as one having the typhoid eruption, has ever been brought forward, where such was the result. How then has this belief been generated and fostered by the practitioners of this and former ages? Simply by comprehending all febrile disorders under typhus, and by keeping steadily in view the successful cases, while the failures, which are infinitely greater, are lost sight of, and do not enter into the calculation. But it may be asserted, that though vomiting cannot check the progress of the disease, it renders it milder by evacuating indigestible and other offending matters from the stomach, and by promoting diaphoresis. That some benefit may occasionally arise from its operation, we do not question; but such beneficial effects can, in general, be produced more safely, and with less discomfort to the patient, by diaphoretics and purgatives. We do not mean to assert that, in ordinary cases, vomiting is accompanied or followed by any peculiar or bad consequences, but certainly the circulation is, during the process, violently deranged, and in diseases which are apt to terminate in an effusion of serum, it ought to be avoided, unless some great and obvious advantage be expected. It is also obvious, that when there is any constitutional tendency to apoplexy, or determination of blood to the head, or any particular debility of the system, vomiting may prove injurious.

Purgatives.—Attention to the bowels is an essential point in the treatment of typhus, inasmuch as their natural action is greatly weakened or paralysed, during the active stage of the disease; and hence feculent matters and morbid secretions accumulate in large quantities, if the natural efforts be trusted to. In this country, the doctrines of Dr Hamilton and others induced practitioners at one period to carry purgation to a considerable excess, while those of M. Broussais produced an opposite result, that was equally injurious. If the previous illustrations be admitted, or if typhus be a disease, in which the vital powers are liable to be overcome by the presence of a poison in the system, it is obvious that excessive purgation will rapidly diminish the amount of blood and the other resources of the system, and hence may prove hurtful; and it is also equally clear, that if irritating matter be lodged in the bowels for several days or even weeks, it will complicate the disease, and may thus render it more intense. Experience, however, has shown that in this affection, as in many others, a medium rule is the safest as well as the most successful. In the commencement of the disease one or two brisk purgatives, such as the compound powder of jalap, with two or three grains of calomel or castor oil combined with the same mercurial salt, will, if repeated at the interval of two or three days, be found useful in unloading the primæ viæ, and in promoting several of the secretions; but large doses should not be persevered with, if the patient be of a weak habit of body, be cachectic, or advanced in years. In ordinary cases, after one or two brisk cathartics, a moderate dose of castor oil, infusion or fluid extract of senna, or other mild purgative, every second day, will be sufficient to unload the bowels, without causing much watery evacuation; if, however, there be any inflammatory complication, accompanied with a full and strong pulse, these evacuations may be pushed to a greater extent. Again, in weak, cachectic, or old persons, the gentlest purgatives must be employed, in case of causing a prostration of strength, from which it will be difficult to rouse them. In such cases, enemata of castor oil, with a small proportion of purgative salt, will often answer the purpose more safely; although in some a dessert spoonful of castor oil, exhibited by the mouth, will be found equally manageable, and occasionally more useful.

Diaphoretics.—Physicians have long been in the habit of observing, that fevers frequently terminated in a copious perspiration, as in the late epidemic which prevailed in Glasgow, Edinburgh, and other towns in Scotland; and have thus been led to imitate the process by artificial means. There are several febrile disorders, as we have already remarked, such as catarrhal and simple fevers, that appear to be sometimes checked in their progress, but there is no reason whatever to believe that typhus, and the fevers called exanthematous, can be thus arrested *in limine*. This view is now very generally entertained amongst experienced medical men, who readily exhibit powerful sudorifics at the commencement of fever. The practice is seldom productive of any permanent advantage, and tends, when often repeated, to exhaust the strength, on the same principle as bleeding or excessive purgation. We do not mean, however, to assert, that this practice should be altogether abolished, for cases may occur where the skin is very dry, and the heat burning, which may be benefited by a liberal dose. In general, however, opiate diaphoretics are objectionable, as tending to dry up several of the other secretions, and by inducing a tendency to delirium. The best sudorific is tartar emetic, or ipecacuan exhibited gradually until its full effects are experienced. Although powerful sudorifics are thus, in most cases, objectionable, it is highly necessary to promote the secretions from the skin; for otherwise the febrile symptoms, and determination to other organs, might be increased. Small doses may therefore be exhibited every three or four hours, such as one-sixteenth to one-eighth grain of tartar emetic, or one-fourth to one-half grain ipecacuan, in any convenient vehicle, or along with the acetate or citrate of ammonia. Sponging the whole skin with tepid water is perhaps the most efficacious method of opening its pores, and promoting insensible diaphoresis, as it tends materially to lessen the heat of the skin, to relieve the restlessness, and other febrile symptoms. It has a very soothing effect, when repeated once or twice a-day, and from the results of its employment in the Glasgow Fever Hospital, as well as in private practice, we are inclined to think favourably of its employment. The warm or tepid bath was scarcely ever recommended, except on the admission of the patient, with the double object of cleansing his skin and opening its pores, and when used at an early period of the disease, was sometimes productive of benefit, if not carried to excess; but when the malady was in an advanced stage, and in very weak and cachectic individuals, exhaustion and prostration were sometimes the result. It is not, in general, desirable to apply warm or tepid water to the skin of a typhoid patient, except for the purpose of removing filth from the surface of the body.

Refrigerants.—This is an obscure class of remedies in any disease, and it is doubtful how far they are beneficial in typhus, as we have never seen reason to believe that they have any remarkable effect in moderating the heat or other febrile symptoms. Acids are perhaps the most useful, as they are grateful to the patient, and seem, by nervous sympathy, to produce a feeling of refreshment. Cold water ought to be the liquid in which all refrigerants are exhibited, as cold is generally in itself agreeable to the patient; and, by positively abstracting the caloric, tends to lower the temperature of the body. An aversion to the employment of cold water, as a drink in fever, and many other diseases, exists among the vulgar, which is quite unfounded, and it is difficult for the medical attendant to convince them of its safety and utility. During cold weather, if the patient be weak, or of a cachetic constitution, the water may be placed for a short time near a fire, so as to raise its temperature a few degrees. When acids are exhibited dissolved in the water, pure citric or tartaric acid is superior to the juice of lemons, oranges, or other acid fruit, in as far as there is no fermentable principle present which might derange the digestion. In many cases, a few drops of diluted sulphuric, muriatic, or nitric acid, so as very slightly to acidify the water, with the addition of a very small portion of refined sugar, will be found equally grateful and more calculated to agree with the digestive organs. The application of cold water to the skin is a most powerful means of refrigerating the system, as well as of promoting the action of the skin. In young and vigorous individuals, in the early stages, it may be preferred to warm or tepid water, and nearly the whole surface of the body may be sponged once or twice a-day. In the latter stages, again, when the heat of skin and strength are beginning to decline, tepid water is more advantageous. This method of practice is generally soothing to the feelings of the patient, and tends to promote rest, and sometimes sleep. Its utility is also borne out by analogy, from the beneficial effects of the cold and tepid bath in promoting healthy action in man's ordinary physical state.

Diuretics.—The urine, as well as the other secretions, is, in general, diminished in quantity, notwithstanding the amount of liquid that is taken in the form of drinks; the superfluous water escaping chiefly from the lungs, through the medium of the accelerated respiration. Mild medicines that promote the secretion of urine, when much diminished, are therefore useful in carrying off uric acid, and other excrementitious constituents of that liquid out of the system, and in this way tending to moderate the symptoms. The carbonate of soda, the citrates of soda, potass, or ammonia and imperial, with a little sweet spirits of nitre, are in general sufficiently powerful. Retention of urine, which is occasionally, from inattention, mistaken for a want of secretion, is apt to occur during the soporific or comatose stages of typhus, and is productive, when neglected for any length of time, of considerable increase of all the bad symptoms. It ought therefore to be a rule, in the latter stages of the disease, to examine the abdomen at every visit, in order to ascertain this point, and, if necessary, to rouse the patient to make an effort to unload the bladder, or to draw off the urine with a catheter.

We may here take notice of a class of medicines, viz. *Salines*, which have been highly extolled by some writers. We have had very little experience of these agents, at least in the form usually recommended; but it appears that their employment is primarily deduced from theory, as from their absorption into the blood they might be expected to renovate and purify this fluid. The hypothesis is plausible enough, but there is no reason to believe that their agency has any peculiar effect in neutralizing the poisonous matter, or in checking the progress of the disease. At the same time it may be observed, that carbonate of soda, nitrate of potass, and chlorate of potass, some of the salts recommended, have a beneficial effect on the secretions, and thus may be of service in many cases.

Mercury.—The exhibition of mercury in typhus has been much lauded by some, and condemned as injurious by others; one class of writers believing it to be specific, as it is held with regard to some tropical fevers, while another have issued dreadful anathemas against its employment. The truth lies not in either of these extremes, as frequently happens with disputed doctrines. Mercury, particularly in the form of calomel and opium, is well known to exert a specific power over many diseases, especially those of an inflammatory type, by arresting, so soon as the salivary apparatus becomes affected, their destructive course. It follows not, however, from analogy, that a disease produced by the presence of a specific poison in the blood can be similarly modified. Neither do facts warrant us in making the assertion. At the same time, we are satisfied that small doses of calomel, with or without a minute quantity of opium, often exert a salutary influence over the disease. This may be accounted for, without having recourse to any theory of specific action. The secretions in typhus are uniformly in an unhealthy state, local determinations of blood, and occasionally pure inflammatory action occur; all of which will be benefitted by the calomel. We have already mentioned, under purgatives, that two or three grains of calomel may be combined with castor oil, compound powder of jalap, or other cathartics employed, with advantage, in promoting some of the secretions, &c.; but if a more decided mercurial action be desired, it should be combined with a small quantity of opium. Two grains of calomel and half a grain of opium may be given in twenty-four hours, made into pills, and exhibited in four doses. The small proportion of opium is often advantageous in preventing purging, and in promoting the action of the mercury on the system. When this treatment is commenced at an early period of the disease, it is more likely to be useful than when given in the latter stages; indeed, calomel when exhibited at an advanced period of the malady, is often liable to induce intractable diarrhœa, more particularly if the dose be large. We cannot hold out any particular recommendation of calomel and opium from our own experience, but may state the results of its employment in the Glasgow Fever Hospital, where it was exhibited to all the fever cases admitted within a certain limited period, with a few exceptions.

From January 15, to April 23, 1839, 146 males were treated with calomel and opium, among whom there were 74 cases with the eruption. 16 deaths occurred, or about 1 in 9. From January 16, to April 25, 1839, 126 females were treated in the same manner. Among these there were 70 cases with the eruption, and 14 deaths, being 1 in 9. It may be observed that several deaths occurred in the convalescent wards from erysipelas, &c., one from perforation of the intestines, one from intestinal hemorrhage, and several were almost in a moribund stage when admitted.

Opium.—At one period a draught containing opium, at bed-time, was considered indispensable in the treatment of typhus; and if the regular routine of bleeding, vomiting, purging, and opiates at night had been regularly prescribed and administered, the patient was believed to be treated according to rule. The indiscriminate employment of opium has, however, of late years, been very properly questioned, and its use even almost altogether condemned by some, except in peculiar cases, which we will shortly specify. If we take into consideration the nature of the head affection which often accompanies the disease, the delirium, stupor, and coma, we will at once infer that an agent, whose tendency of all others is to produce these effects, independent altogether of the similarity of the pathological appearances resulting from both, is not likely to be generally advantageous. No doubt, authors and practitioners can bring forward many cases where sleep was produced by its influence, an amelioration of the symptoms, and a crisis following. This, however, can only be asserted regarding the latter stages of typhus, when such a change was naturally to be expected; while if employed early in the disease, opium increases the thirst, heat of skin, checks the secretions, and induces a tendency to delirium, as in health it causes similar results. Again, in patients who have much delirium, stupor, or tendency to coma, especially if beyond the middle age, there is a liability, after a full dose, to lapse into a state of complete insensibility and coma. It has been stated by some authors, that when combined with ipecacuan or tartar emetic, particularly the latter, it produces wonderful effects in bad cases, complicated with delirium, subsultus, watchfulness, involuntary discharges, &c. That tartar emetic or ipecacuan modifies the effects of opium, and lessens its narcotic operation, we readily admit, and that such ameliorations have sometimes occurred, it would be unreasonable to doubt; but it must also be granted, that many of these cases are selected while the others less successful are lost sight of. Dr Graves has eulogised very strongly a peculiar combination of opium and tartar emetic, as having caused recoveries from states of typhus apparently hopeless; and without at all questioning the statements of this distinguished author, we may be allowed to state, that his published cases are too few, and apparently too select, to warrant a decidedly inductive conclusion. We have already stated, in the outset, that a few successful cases, even thirty, forty, or fifty, prove very little in this disease, for nature herself, even when little interfered with, the strength being duly supported, may give similar results; and we, as well as numerous other practitioners, have witnessed recoveries from apparently very hopeless states, under the use of wine, and other means mentioned in this paper. There are, however, a class of cases where opium is advantageous, and perhaps indispensable. These are accompanied with diarrhœa, and more rarely with delirium, or much affection of the head, the pulse is often very weak, and there is much prostration of strength. In such cases, the diarrhœa rapidly exhausts the patient's strength, and requires to be checked. This may, in general be effected by small doses, such as ten drops of laudanum several times a-day, or by opiate enemas. The brain is little liable to be affected by such small quantities of opium, more particularly when diarrhœa is present. Upon the whole, however, it may be safely asserted, that in the ordinary type of typhus, indicated by rapid pulse, increased heat, suffused eyes, more or less delirium, constipation, and typhoid eruption, or dark hue of the skin, opium in full doses is often injurious, and much more rarely serviceable.

Wine.—In discussing the uses of wine in typhus, it will be necessary to revert to our former theory respecting its nature, that it is a disease produced by the presence of a morbid poison in the blood, that it runs a certain course, cannot be checked *in limine*, and that it causes great debility and emaciation. One very obvious inference may be drawn from this category, viz., that if you can support the strength, or, in other words, keep the animal machinery moving until a crisis occurs, a most important end will be gained. Are these reasons for believing that wine is capable of effecting such an object? It contains a large proportion of carbon, and hence many individuals become corpulent under its intemperate use; it supplies carbon to the lungs, skin, &c., and thus economises the fatty matter, and other solid parts of the body, which otherwise would be consumed; it increases the strength of the circulation, and, as is well known, it will keep a person, dying of some chronic disease, longer in life than any other known stimulus. Does typhus ever exhibit evidences of its victim dying of exhaustion? Do the feeble circulation, the coldness of the extremities, the dorsal decubitus, and the cadaverous countenance, not indicate this? May we not, then, by infusing a new element into the blood, and thus giving a new and increased impetus to its circulation, prevent that collapse which often terminates in death? It may be argued, however, that death generally occurs from some local affection, such as that of the brain, lungs, or viscera of the abdomen. That congestion often exists to a considerable extent in these cavities we readily admit, but we fearlessly appeal to *post mortem* inspections in proof of the fact, that these, in the majority of cases, are by no means so considerable as to account for death, viewed as local causes.

It may also be brought forward as an argument against the consistency of our reasoning, that if we object to opium on account of its effects on the brain, why not also to wine, or other alcoholic liquors. 1. Wine is nutritious, and capable of supplying pabulum for the support of several important functions, being, moreover, with many individuals an article of diet; opium possesses none of these qualities. 2. Wine, when taken even to a considerable extent, does not cause stupor, nor does it check the secretions like opium, although it deranges, to a greater or less extent, with many individuals, the functions of the digestive organs. 3. Almost universal experience is in its favour; for the large proportion of our experienced writers on the subject admit its utility.

We shall now proceed to enumerate those classes of cases where wine is necessary. In children, wine is rarely required, the disease being generally milder, and less fatal with them than in adults. At the same time, cases now and then occur where its beneficial influence is very marked. If the pulse be very feeble, whatever its movements otherwise may be, if there be great prostration of strength, and if there be emaciation, or if the patient be naturally of a very weak habit of body, wine may be safely allowed, but its influence must be watched, for children are more liable than adults to be excited with alcoholic liquors. We have rarely exceeded four or five ounces to a child 10 years of age, in twenty-four hours. In adults, again, wine is necessary in a large proportion of protracted cases; but in those which are accompanied with mild symptoms, and when some amelioration begins about the eighth or tenth day, it is seldom necessary; indeed, if the pulse continue of good strength, wine ought to be withheld altogether; beef-tea, arrow-root, and other mild articles of diet, being sufficient for supporting the strength. If the patient, however, be verging on the decline of life, or even on that stage which immediately precedes it, wine can rarely be dispensed with, particularly with persons who have been accustomed to live well or freely. In such cases the patient ought to be watched with particular care, and if the pulse begin to flag, there should be no delay in commencing the use of wine; for if he be allowed to sink to a certain extent, he is with great difficulty brought up to his former state. The same rule holds with those who have had a considerable amount of wine, and from whom it has been withheld on account of the fulness of the pulse. We have seen some cases of collapse apparently from this cause, and we may shortly allude to a case. A man 30 years of age, and of average strength of constitution, was seized about the 8th or 9th day of fever with some symptoms of prostration, as indicated by the pulse, decubitus, &c. He was ordered eight ounces of wine in twenty-four hours, which brought up his pulse to an average strength. On the second day of its use, however, the pulse became remarkably strong and full, and hence it was omitted altogether, but on the following day he was found almost pulseless, could not be roused by any stimulus, and died soon afterwards. The withdrawing of wine, therefore, from a patient, before convalescence is established, ought to be done sparingly and cautiously. Individuals who have been positively intemperate ought to receive a portion of wine almost from the commencement of the disease; for if this be neglected, a kind of delirium tremens makes its appearance at an early period, and being united to the proper delirium of typhus, aggravates the case most materially. A similar rule applies to those whose constitutions have been broken down, or become cachectic from any cause. Without the aid of some alcoholic beverage, these soon exhibit great prostration of strength; a small portion of wine ought, therefore, to be exhibited very early in the disease, indeed, in such cases, the stage of collapse ought to be anticipated. Authors have differed very materially as to the symptoms which indicate the employment of wine; the pulse, the tongue, the peculiar delirium, the subsultus tendinum, the peculiar prostration, the action of the heart, as indicated by the stethoscope, have all been made to bear upon the question. The tongue cannot be considered a certain index, for it varies exceedingly, being sometimes brownish-white, sometimes blackish, and covered with a dark fur, occasionally aphthous; and n each and all of these states, there may be great sinking of the powers of life. The kind of delirium is also an uncertain index; for when low and muttering, it may be accompanied with a pulse of a similar strength to that of a more furious variety. The state of the circulation, as indicated by the pulse, has always appeared to us the most to be depended on, particularly when accompanied with other symptoms of prostration, such as dorsal decubitus, and a tendency to coldness of the extremities. It appears to be superior in accuracy to the exploration of the region of the heart by the stethoscope, inasmuch as the latter organ is deep-seated, and in some persons the sounds and impulse, although normal, may, in consequence, appear to be weak; whereas, the radial artery is superficial, and ts anomalies so rare, that they form no objections to its practical application.

Another important question connected with the employment of alcoholic liquors, requires to be discussed, viz., the kind or variety that is best fitted for the patient. Some medical men, reasoning on general principles, have concluded that, as the alcohol contained in all those liquors is the active constituent, ardent spirits diluted, is as well adapted for the generality of patients as wine. Our experience does not exactly confirm this opinion; for although it may be true that the solid nutriment in wine is comparatively small, yet, by its *merorganization*, or thorough chemical union with the contained alcohol, the latter more readily undergoes the processes of primary and secondary digestion; and is thus not so liable to be exhaled in the alcoholic form from the lungs, skin, &c. Besides, it is well known that ardent spirits intoxicate and excite more powerfully and more speedily than wine, when the ratios of alcohol contained in each are equal; hence an over-stimulation may be the consequence. Ardent spirits ought rarely to be exhibited to young persons, and in all ordinary cases, not accompanied by any particular sinking of the powers of life, wine ought to be preferred. Cases, however, are occasionally met, where ardent spirits are more advantageous, such as where there is extreme prostration of strength, or when the patient is cachectic from long intemperance.

The kind of wine best adapted for the treatment of typhus has also given rise to some discussion. Port is the favourite with many practitioners, grounded, we fear, upon its popular qualities for communicating strength; but if we take into calculation its great liability to adulteration, and its tendency to cause acidity, this preference will be found groundless. On the other hand, sherry is well known to be less capable of factitious adulteration, is less liable to produce acidity, and perhaps has other advantages; it therefore ought generally to be preferred in the treatment of typhus, although genuine and sound port may frequently be found equally advantageous. Some other wines also possess excellent properties, such as Madeira; but French and German wines, being more uncertain in their alcoholic proportions, are best adapted for milder cases, where a cooling regimen is indicated. In respect to quantity in a given time, we are not prepared to place this at a determinate limit. Two bottles of port or sherry have frequently been exhibited in the course of twenty-four hours, in extreme cases, without any very extraordinary effect on the strength of the pulse, or excitement of the brain.

The rule, however, may be the following:—Commence with a few ounces at first, before much prostration has made its appearance, and carefully watching the pulse and other symptoms, gradually increase the quantity, until the required effect of keeping up the strength of the patient be effected.

Ammonia.—This is a stimulant in common use for the treatment of typhus, and appears to have the confidence of many medical practitioners. Its effects are very temporary; and as it is incapable of primary or secondary assimilation, it can afford little more than an evanescent support to the system. It may, however, be employed advantageously in some cases, when the weakness arises sympathetically from some derangement of the digestive organs, or when wine is considered injurious, from the presence of some local inflammation. In cases, however, where wine, in considerable quantities, is urgently demanded, ammonia ought not to be mixed up with the treatment; for the patient is liable to acquire a dislike to both, from his objection to the one.

Camphor.—It is not necessary to say much regarding this agent in the treatment of typhus, as there are few experienced modern writers who place much confidence in it. We have never found it of any advantage, and its disagreeable qualities are a powerful objection to its exhibition.

Quinine, and other Tonic Bitters.—These medicines may act as adjuvants, in assisting the primary assimilation, but are too slow in their action, and too little diffusible, to produce any particular effect. During convalescence, however, they are of essential benefit in promoting digestion, and in giving general tone to the system. An infusion of gentian, or columba, with a portion of the carbonate of soda, to neutralise any excess of acid which is liable to be formed in the stomach, will often be found useful.

Drinks.—It is a prevalent opinion that medicated drinks are best adapted for fever patients; that is to say, those which contain some substance in solution, such as sugar, acid, gum, vegetable jelly, or starch. This is unquestionably a misapprehension of the subject, for almost all these are more or less liable to increase the thirst, or cause indigestion, from the ready fermentation of their principles in the stomach. Plain water, such as is within every man's reach, in this country, is incomparably the best drink, as it quenches thirst more effectually than any other, and contains no element liable to disorder the digestion. Its temperature, however, requires to be increased or decreased, according to the season of the year. Thus, ice-cold water might chill a patient too much during winter, and during summer an artificial refrigeration may render it more grateful to the patient. The addition of some pure acid, in minute quantity, such as citric acid, or aromatic sulphuric acid, or cream of tartar, if there be no tendency to diarrhœa, often renders the liquid more cooling, and has no injurious tendency, when used moderately; whereas lemon-juice, preserved vegetable jellies, &c., are liable to cause indigestion, or diarrhœa. Toast water, and soda water, may also be employed as safe varieties; for the patient is generally desirous of a change of drinks. All kinds of beer are improper, as they are liable to cause flatulency and acidity.

Diet.—The typhus patient has, in general, a total disrelish for all kinds of ordinary food, and when we take into consideration the high febrile symptoms, and the morbid functions of the stomach and alimentary canal, little else could be expected. All the ordinary kinds of food are rejected or disliked, such as tea, coffee, soups, butcher-meat, bread, butter, &c.; and it is fortunate that such is the law of the disease, for were it otherwise, a serious aggravation would be the result of indulgence in some of these. Arrow-root, sago, potato-flour, beef-tea, and chicken-broth, deprived of fatty matter, gelatine, tea and coffee, are well adapted as articles of diet. When wine is a part of the treatment, the amylaceous part of the diet may be exhibited along with it, being previously made into negus. The patient has generally a strong dislike to bread, when not softened by some liquid; it may, therefore, be converted into a pulp with tea, coffee, or negus, or it may be taken in the form of bread-berry. The bread best adapted is either the ordinary fine bread toasted, rusks, or the plain *cookee*, a species of finely-raised, very light and digestible bread. All other kinds, containing sugar, eggs, &c., are not well suited to the digestive organs. Fruits of all kinds, in general, disagree with the patient, often causing acidity and flatulency, and, when eaten argely, diarrhœa. They ought, therefore, to be avoided; but a few ripe grapes may occasionally be allowed, in limited quantity.

Temperature, Clothing, Ventilation.—Various opinions are held respecting the temperature of the apartments in which typhus-patients ought to be placed; and it is still a point not completely settled. In the early stages of the disease, a cool atmosphere, such as a temperature of 55°, will be most agreeable to the feelings of the patient, and may also tend to lower the febrile heat, &c.; but when the disease advances, and when symptoms of debility make their appearance, this degree would be too low. At that period, then, the temperature of the apartment should be at least 60°, and this, as a general rule, appears to be sufficiently high, both for the comfort of the patient, and for supporting the heat of the system.

Variations in the temperature, arising from the season of the year, must frequently occur; but these ought to be regulated by artificial heat in the one case, or by a more thorough ventilation in the other.

The bed-clothes ought to be very light, consisting of a single covering only, as long as the heat of the skin continues high. The patient's dress should be a linen or cotton shirt,—his head ought to be shaved, and either remain uncovered, which, in many cases, is the preferable mode, or he may use a very light cotton cap. The clothing and bed-clothes may be changed at any time during the illness, provided the patient is not much disturbed, although the popular opinion is against the practice. The admission of fresh air into the sick-chamber is a most important part of the treatment of fever. If we take into consideration the very impure state of the blood, its dark colour indicating an extra quantity of carbon, we will see the necessity for a free supply of oxygen. In large hospitals, various contrivances have been adopted for the ventilation of the wards, and with various success; but, generally speaking, the air is admitted in too large a volume, at a given opening. It would be preferable, in our opinion, as generally illustrated by Dr D. B. Reid, if the air, at a given temperature, were admitted by a great number of small openings from below, so as rapidly to gain the utmost amount of diffusion, and thus obviate draughts or currents. In the private houses of this country there are generally no other means of ventilation, than the doors, windows, and chimneys; and though this is far more imperfect than might be managed under a specific construction, a large, and often a sufficient, ventilation, may be effected through their agency. During mild weather a copious supply of fresh air is procurable by opening the windows of one or two adjoining apartments, and it will thus, from its greater specific gravity, pass readily into the sick-chamber; while the impure air, generated there, will escape from the upper part of its own window, if drawn down at the top from one to two or three inches. No draught is occasioned by this plan, during ordinary states of the atmosphere; but a screen or blind should be attached to the window, to protect it from gusts of wind, &c. If the bed-room be pretty large, this simple means, kept constantly in action, will ensure a sufficiency of fresh air, without the smallest risk to the patient. As an useful adjuvant to this means, and also to support the temperature of the apartment during cold weather, a fire or stove should be kept in operation; but care ought to be taken that sufficient fresh air from the other parts of the house be supplied to support its combustion, else a cold current may rush in from the window, and may in particular situations of the bed descend upon the patient. Bed curtains ought to be dispensed with, as liable to cause a stagnation of the impure air around the bed, with the exception of one, which may be drawn in front of the patient, to protect him from light, or other disturbance.

COMPLICATIONS OF TYPHUS.

Affections of the Head.—More or less congestion of the vessels of the brain occur in severe cases of typhus, and it seems to be of the same nature as those which are met in other parts of the body. Pure inflammation of this organ is a rare occurrence in this disease. The functions of the brain are, however, often greatly deranged, and this complication is always indicative of considerable danger, and ought to be carefully treated. Coolness of the head tends to prevent turgescence of the vessels of the brain; the head ought therefore to be shaved, frequently bathed with an evaporating lotion, such as vinegar and water, and, in some cases, ice or iced water may be employed with advantage. When the delirium is very considerable or decided, a blister to the scalp or nape of the neck often lessens this affection. It is generally productive of little or no inconvenience to the patient, nor does it tend to debilitate as has been alleged by some writers; indeed it rather has the effect of rousing the system, by its stimulating effects.

Sloughing is also said to be one of its evil effects, but we have rarely observed this upon the scalp, even when the blister was kept applied for sixteen or eighteen hours, and never when under ten or twelve. Blisters to the epigastrium have been recommended in similar cases, but with the exception of those complicated with tenderness in that region, singultus, or vomiting, the head or nape of neck is the preferable situation. Leeches may also be employed with advantage, when the patient is strong and plethoric; but caution should be exercised as to the amount of these, for if eight, ten, or twelve be applied, the quantity of blood which may ultimately flow, might prove debilitating. One or two applied to the septum narium is a very convenient method of unloading the vessels of the head. Mustard, garlic, &c. have been recommended to the calves of the legs and soles of the feet, when the patient was very much collapsed or comatose; and though we do not place much confidence in their efficacy, still, in extreme cases, they ought not to be neglected. The application of flannel, dipped in very hot water, to the feet and legs, has also sometimes proved beneficial.

Bronchitis.—This is a very common complication; frequently, however, it is by no means so severe as to require any particular modification of the treatment. But if the sonorous and sibilant ronchi be extensive, accompanied with frequent and troublesome cough, and hurried respiration, the case demands some local attention. Antimony or ipecacuan ought to be exhibited in full doses, and a large blister should be applied to the chest. Hyosciamus and conium are useful as adjuvants to the ipecacuan and antimony, and in the less acute cases, ammonia and squills may be used with advantage in promoting expectoration.

Pneumonia.—Acute pneumonia, like other pure inflammatory affections, is not very common in typhus, at least before the convalescent stage of the disease ; and though the lungs are often found congested, and the bronchial mucous membrane red, the pure pneumonic characters are generally not present. True inflammation does not appear to be very compatible with the state of the system, as induced by the presence of the typhoid poison; but there is nevertheless a predisposition in many organs to assume this state during convalescence. Hence patients occasionally die of chronic pneumonia in the convalescent wards of an hospital. Although, therefore, acute pneumonia is not frequent during the active stage of typhus, it does sometimes occur, and although its physical signs are often obscure, the crepitation of the lung being frequently not very distinct, yet by percussion, the sputa, and the breathing, a tolerably correct diagnosis may be arrived at. In the early stages of typhus, that is within the first six days, bleeding may be had recourse to, in a young and healthy individual, but in many other cases, and in all unsound and indifferent constitutions, it is safer to trust to cupping or leeching the chest; the former mode of practice being very efficacious, and more determinate than the latter, in as far as the quantity of blood is concerned. Six, eight, or ten ounces may in general be taken, in this way, without risk. Blisters, also, form a powerful means of counter-irritation, and in a severe case ought not to be neglected ; indeed, in weakly individuals, and in all persons where there is much prostration of strength, they ought to be substituted for local bleeding. As in pure pneumonia, calomel and opium is useful in this variety, and may be given to the extent of 1 gr. calomel, and $\frac{1}{4}$ gr. opium, with $\frac{1}{8}$ gr. tartar emetic, every four hours. It is frequently necessary to give wine in this affection, when the prostration is considerable, for if this be not attended to, the patient is liable to sink. We are placed to a certain extent between Scylla and Charybdis in such cases; but the lesser evil must be chosen, although it may perhaps somewhat aggravate the pneumonic symptoms. In young and healthy individuals, or in cases where the inflammatory gain the ascendancy over the typhoid symptoms, which sometimes, although rarely, occur, wine ought rigidly to be withheld.

Pleurisy.—This affection is also unfrequent during the active stage of fever, although, as in pneumonia, effusions into the chest are occasionally found, when patients die during the convalescent stage. It is, in general, pretty well distinguished by the physical signs, such as the quick and peculiar respiration, the acute pain in the side, and the dulness on percussion, even although no marked frictional sound be discoverable. The following may be adduced as an instance, which well exemplifies the predominance of the inflammatory over the typhoid symptoms. The wife of a collier was admitted into the Glasgow Fever Hospital, labouring under symptoms of fever, during the spring of 1839. She was about 30 years of age, healthy, vigorous in constitution, and about the sixth day of the disease the typhoid eruption made its appearance, which, alhough not copious, was very distinct and characteristic. She had o other symptoms which distinguished her case from that of simle fever. About the eighth or ninth day she was seized with a vell marked pleurisy, for which she was bled to about twenty unces, with great relief, and with a complete check to the inflammatory action; the fever, however, kept its course until about the fourteenth or fifteenth day, when she gradually convalesced. The lood drawn from this patient was very buffy, which is always a riterion of the predominance of the inflammatory action over the yphoid. Cases so well distinguished as this are by no means common, and had the eruption not been very decidedly marked, we would ave had great doubts of its typhoid nature. When the pleuritic ymptoms are less decided, general bleeding must be employed with aution; or when the typhoid symptoms are intense, such as much delirium, prostration, and weak pulse, it must be omitted altogether, nd cupping or leeching substituted for it. Calomel and opium ught, also, in every case, to be employed as in the idiopathic disease. Blisters, in doubtful cases, ought to be preferred as local applicaions, as they are in general very efficacious, and more safe than leeding in any form.

Affections of the Stomach and Bowels.—It has been supposed by ome writers, who have adopted the opinions of the French school, hat the seat of typhus is in the stomach and intestines, or that the disease is a gastro-enterite. It is needless here to attempt a refuation of this groundless dogma; for the arguments against it, specially regarding British typhus, are remarkably conclusive. Affections of the stomach and bowels do, however, frequently occur, nd require the careful attention of the medical attendant. Vomiting is not frequent, but epigastric tenderness, accompanied with ed tongue, now and then occurs. This, in general, indicates some xcitement or subacute inflammatory action of the mucous memrane of the stomach. We have found these symptoms relieved by small blister to the epigastrium, accompanied with the exhibition f a dilute solution of the bicarbonate of soda, and small doses of he tincture of hyosciamus, and when the bowels are constipated, by he employment of mild purgatives, such as castor oil or rhubarb. Diarrhœa is more common, although less so in eruptive typhus, han in some other forms of fever, when drastic purgatives, irritatng drinks, or articles of diet have been withheld. It ought at first o be treated with gentle doses of castor oil or rhubarb, and aftervards with small quantities, such as ten drops of laudanum two or hree times a-day, with a careful regulation of the diet and drink. Tympanitic swelling of the abdomen is also liable to occur in typhus, more especially when diarrhœa is present, and is always a disagreeble and sometimes an intractable symptom. Castor oil, containng a small quantity of spirits of turpentine, has been recommendd; and we have sometimes observed advantage from frictions with n ammoniacal liniment; but as it is generally symptomatic of the affection situated in the mucous membrane of the bowels, it often continues, to a greater or less extent, until this is removed. Enlargement of the intestinal glands is a frequent accompaniment of this state, but does not appear to be much influenced by local remedies. We have tried nitrate of silver in combination with opium, without, however, observing any particular effect. Acetate of lead has been highly recommended in tympanitis by Dr Graves. In chronic cases of ulceration of the bowels, or where it exists in the convalescent stage of the fever, a tonic plan of treatment is the most likely to produce cicatrization of the ulcers, and to prevent any excess of distention. The strength ought to be supported with wine and tonics, gentle laxatives should be exhibited, alternating these with opium to check the excessive secretions or peristaltic motion of the bowels, and all kinds of food difficult of digestion, or liable to produce flatulency, should be avoided. When perforation of the intestine occurs, either from progressive ulceration, or from indigestible matter, causing a flatulent distention of the bowels, it is almost invariably fatal. Bleeding, in a moderately stout individual, may be employed to check the consequent peritonitis; but wine and opium are more generally indicated.

Singultus is also an occasional accompaniment of typhus. It is difficult always to assign a satisfactory reason for the appearance of this troublesome and often unfavourable symptom. It has been located in various organs, such as the stomach, diaphragm, nerves, and brain, by various writers. It is often associated with the presence of some irritating matter in the stomach, acting on a diseased mucous membrane; but this view will sometimes not account for its presence, and we are then obliged to adopt the theory of nervous irritation, depending more or less on the brain. Bicarbonate of soda in solution, along with creasote or oil of cloves, in the form of pill, we have often found useful in checking hiccup. Opium and nitrate of silver have also proved more or less advantageous. As it is very exhausting to the patient, and very distressing to the relatives, as spectators of the suffering, it is not proper to waste a long period in trying internal remedies without success, a blister to the epigastrium should therefore be had recourse to, as this will be found a more successful remedy in allaying it, than many others.

Sloughing.—The soft parts covering the sacrum, and other bones of the pelvis, are liable to become inflamed and sphacelated from the long pressure, particularly in thin and cachectic individuals. These parts should, therefore, be regularly and carefully examined in protracted cases. If any part of the surface be red or excoriated, it may be bathed with tepid water, carefully dried, and then moistened with a solution of nitrate of silver, in the proportion of from four to six grains to an ounce of water, once a-day, being finally covered with a pledget of simple ointment. The patient ought, as in every case of fever, to lie on a mattress, but cushions of cotton should be placed under the parts, to prevent the effects of pressure as much as possible. When these points are carefully attended to, much ulceration is generally prevented, and we rarely ind among the better classes those frightful excavations over the sacrum, which are sometimes to be met among the poor. We have seen instances which proved fatal, apparently from this cause alone. Wine and a generous diet, suited to the patient's digestive organs, with the treatment of the ulcer on general principles, will generally be found most advantageous in promoting a cure. Mortification of the toes and feet occurs in some rare instances from typhus. When great prostration exists, the extremities are liable to become cold, accompanied with a feeble circulation in their bloodvessels, and if they remain unprotected or imperfectly covered, a gangrenous inflammation may be induced. The feet ought, therefore, to be regularly examined, and if cold, ought to be wrapped in warm flannel, or jars containing warm water may be employed. Gentle frictions with warm flannel are useful when they have been discovered cold, and somewhat insensible. When gangrene has actually taken place, an attempt should be made to limit its progress, by forming a vesicated ring around the limb with the nitrate of silver, immediately beyond the margin of the inflamed skin, as recommended in erysipelas.

Erysipelas.—This affection rarely occurs in private practice simultaneously with typhus, but frequently in hospitals, almost always n the convalescent stage. Typhoid patients seem peculiarly liable to it during some seasons; and when it prevails in a ward, it is a most unmanageable visitor. Those affected with it ought immediately to be removed to a separate apartment, and treated there; as this is the only method of preventing its spread among the others. It generally makes its first appearance on the face, very often in the neighbourhood of the nose, and spreads upwards over the scalp, and downwards over the face, frequently extending to the neck and trunk; and in this latter case the danger is greatly increased.

The evacuating plan of treatment does not, in general, suit the debilitated constitutions of such patients, if carried beyond a simple purgative, or small doses of tartrate of antimony. The fever, in a arge proportion of cases, assumes the typhoid type; and wine, with a light nourishing diet, is most generally indicated. As an external application to the affected skin, a solution of the nitrate of silver, in the proportion of from 5 to 10 grains to an ounce of water, will be found the most efficacious in reducing the inflammation. When it is confined to any particular part of the face or head, an attempt should be made to insulate the disease, or check its progress, by forming a ring around it with the solid nitrate of silver, previously dipped in water, to the extent of thorough vesication, and from half an inch to one inch broad. We have frequently done this on particular parts of the head, and in a few cases on the face, with perfect success. When the whole head and face are affected, a very complete ring can be formed around the neck, and thus the danger of its spreading to the trunk may often be prevented. To be successful, however, the vesicated line must be carefully executed, and no point should be left untouched, for the inflammation will travel through a very small chink. Another circumstance to be attended to, is the situation of the line, which ought to commence at the point of separation between the sound and inflamed skin, and be carried outwards on the former to the required extent. The efficacy of the caustic is questioned by many medical men, because it does not always succeed; but if we take into consideration the difficulty of applying it thoroughly in some situations, and sometimes the actual extension of the disease beyond the caustic line at the time of its formation, these objections may, to a great extent, be obviated. And even in those cases, where the disease proceeds across the line, it does so generally at one place only, the practice at least doing some good by giving a temporary check to the disease. We have never seen any evil result arise from it, the blackening of the skin being merely temporary, and the vesication leaving no scar.

A summary of the treatment of typhus may be comprehended under the following deductions:—

1. That as typhus is a disease which cannot be checked *in limine*, and is often tedious in its progress, causing great emaciation and exhaustion, we ought not, without very strong and special reasons, to employ any measures which may vitally lessen the powers of life, such as bleeding, vomiting, and excessive sweating or purging.

2. The ordinary measures may be the following:—Place the patient in a large, well-ventilated apartment, on a mattress with few bed-clothes, let the head be shaved, and kept cool with an evaporating lotion, give a gentle purgative every second or third day, let the skin be bathed once or twice a-day with tepid water, and this may be accompanied with small doses of tartrate of antimony, antimonial powder, or ipecacuan. His drink should be light, cooling, and slightly diuretic, and his diet nutritive, but light, and little liable to ascescency. When there is a tendency to congestion in any organ, a little calomel or hydrargyrus c. creta may be combined with the purgative, or calomel, with a small portion of opium, may be given every six or eight hours. The application of two or three leeches to the temples or nostrils is often useful in congestion of the brain, and also when there is intense headach, which is often the forerunner of delirium. Blisters are also often advantageous in such cases. Derangements of particular functions, or symptoms arising from idiosyncracy of constitution, sometimes occur, and must be treated accordingly.

3. Mercury in small doses is frequently useful in promoting several of the secretions, and in relieving the congestions of internal organs.

4. Opium is injurious in a large proportion of cases, from its tendency to cause congestion in the head; but when diarrhœa is a symptom, it ought to be administered with a view to check the exhausting evacuations.

5. Wines and other alcoholic liquors, as they contain both stimulant and alimentary elements, are the most to be relied on for supporting the strength; and are the least injurious. The pulse, taken along with the general symptoms of exhaustion, ought to be the rule for its exhibition, both as to time and quantity.

6. Ammonia, camphor, quinine, and other similar tonics, are not to be depended on in bad cases; and, when exhibited along with wine, frequently cause the patient to refuse both.

7. When the disease is complicated with local affections in the head, chest, or abdomen, these must be treated on the same general principles as the idiopathic disease, which they represent; with this important modification, that evacuations of all kinds must be employed more sparingly, and with much caution; and that even in these cases, if there be much prostration of strength and a very weak pulse, wine must be administered, although more moderately than in the simple disease.

ARTICLE II.—*Case of Ichthyosis Intra-Uterina.* *By* WILLIAM SMELLIE, M.D., *Stronsay*, *Orkney.*

In the LONDON and EDINBURGH JOURNAL for July 1844, Professor Simpson has published two cases of Congenital Ichthyosis, communicated to him by Professor Vrolik and Dr Lewins; and another case was published by Dr Keiller, in the number for August 1843.[1] I have now to communicate the particulars of an example of well marked Ichthyosis Intra-uterina, which I met with a few days ago.

CASE. The child was a male, and born in the eighth month. As far as I am aware, neither the parents nor relatives had any symptoms of the deformity. The labour was by no means severe, but rather tedious in the first stage from obstinate rigidity of the os uteri, on which venesection made very little impression for a considerable time. As soon as my hand touched the body of the infant, I was startled to feel it exactly like a piece of cracked glazed leather. On examination, I found a very close resemblance to the plate of Dr Vrolik's case in the July number of the MONTHLY JOURNAL; the body was covered with a thick, smooth, and shining epidermis, fissured in many parts, more especially about the neck, in the axillæ, groins, and popliteal spaces: all over the breast, abdomen, and toward the lumbar region, there were large fissures, of a red and raw appearance; the arms and legs were somewhat œdematous, and had a pellucid appearance, from the horny nature of the epidermis; the fingers and toes, on which the rudiments of nails were scarcely perceptible, resembled artificial appendages rather than natural formations; the head was covered with hair, and the scalp was entirely free from fissure. There were some small fissures on the face, about the angles of the mouth, which was so much dilated and distorted, that the lips could not be brought together: near, and external to each ala nasi, there was a horny excrescence in the epidermis about the size of a hemp-seed, and about the external canthus of each eye, which was entirely concealed; the internal lining membrane of the eyelids protruded in the shape of a bloody tumour. The nose and ears were natural. The natural passages were all pervious. The child squalled vociferously, and greedily swallowed syrup or milk from a spoon; it would also have sucked with avidity, could it have brought its lips together. Such was the condition of this infant at birth; it lived for seven days, and I saw it every day during that period; but before its death, its external appearance was much altered. From the second day till its death, the epidermis continued to fall off in large pieces, and first from the parts where the fissures were most numerous. When it had come away from the circumference of the mouth, the mouth was of the natural formation, and the child sucked greedily. The bloody tumours from the eyes gradually disappeared, and the eyes became visible; these circumstances go far to prove the soundness of the view of the etiology of this deformity adopted by Drs Vrolik and Simpson. The sufferings of the infant at this period must have been dreadfully severe, from the tenderness of the skin exposed by the desquamation of the cuticle. By the continued exertion of the voice, it was exhausted from a loud squall to a scarcely audible wheezing or hissing. Latterly a serous fluid exuded from almost the whole surface of the body, and sphacelated spots appeared about the articulations. By imagining the case of a being flayed alive, we have some idea of its appearance and sufferings before death relieved it.

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[1] The cases of Vrolik and Keiller are illustrated by drawings, as our readers may remember.

I was anxious to have got a drawing made; but being no adept at the pencil myself, and there being no individual near who could do the work for me, it was impossible; and I have been obliged to content myself by publishing the above imperfect description.

Article III.—*Cases in Surgery, from the Practice of* Dr Handyside, F.R.S.E., *late Senior Ordinary Surgeon, now one of the Consulting Surgeons to the Royal Infirmary of Edinburgh.* (*Reported by* John Struthers, Esq., *Resident Clerk in the Royal Infirmary of Edinburgh.*)

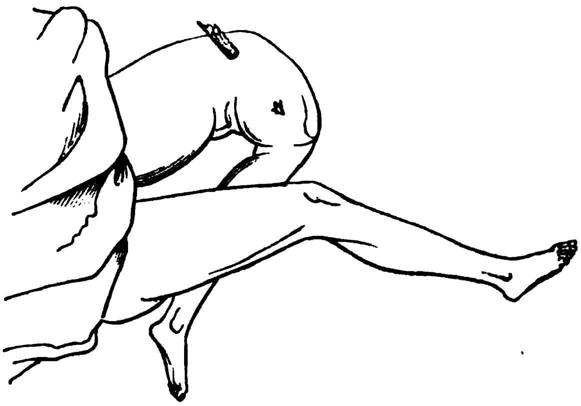
The following Cases, occurring in my Surgical Practice, are the first of a Series which it is my intention to publish in this Journal.

P. D. H.

I.—NECROSIS OF THE OS FEMORIS.

Case 1. *Extensive Necrosis of the Os Femoris, with Protrusion. Recovery without Amputation.*—Jane Roy, aged 9, was admitted into the Royal Infirmary, under Dr Handyside, on December 20, 1843, with extensive Necrosis of the left thigh-bone.

On examination the left thigh was found remarkably twisted.



and distorted, being enlarged and unshapely, and bent nearly to a right angle at its middle. The leg of the same side was completely drawn up, and lay obliquely below the opposite thigh, with the foot thus projecting beyond the right hip, as represented in the accompanying outline.

The shaft of the os femoris appeared as if fractured near its middle. The upper end of the lower half projected through an opening in the soft parts to the extent of above two inches. The upper art of the thigh bone was in its normal position, but felt much hickened, and the soft parts over it were much swollen and induated. A dark coloured cicatrix existed over the inner condyle.

The projecting portion of bone was destitute of periosteum; mooth and dark coloured on the surface; rough and spicular at he extremity; its medullary canal was hollowed out, and continully discharged fœtid pus; and, when handled, it appeared to be irmly connected with the lower half of the shaft of the os femoris. The patient had no power over the hip and knee-joints, but could nove the foot and toes freely. The knee-joint allowed of passive notion to a limited extent, and the pain thence arising was refered to the middle of the thigh.

Previous history.—Exactly nine months before being brought o the hospital, she was awakened during the night by a vioent pain in the left thigh, which was soon followed by swelling. For this she could assign no cause, except her having taken more xercise than usual the previous day, during which she had leant rincipally on the left leg, in consequence of some wound, or other emporary cause of lameness, of the right foot. Friction with inegar cloths was assiduously applied for a fortnight over the ainful part; but, as by this time the pain had become worse, it vas then thought necessary to apply for medical advice. Twelve eeches were now applied, followed by hot fomentations: the latter vere continued for two months. The pain, however, continued. Soon after this time an opening formed spontaneously in the situaion marked by the cicatrix before mentioned, and after a plentiful scape of matter, the pain somewhat subsided. Poultices were hen applied. Two months ago the thigh began to bend, and quickly assumed its present position. This change was followed by constitutional disturbance, and great local pain and redness, which rapidly subsided, a month afterwards, on the protrusion of the bone through the integuments, an occurrence which was also accompanied by a gush of matter.

Before the pain in the thigh began, she had always been healthy, but since that time she has lost much flesh. Throughout the progress of the disease she has suffered considerably from pain, sleeplessness, and severe constitutional disturbance. Of late, also, she had nocturnal sweatings, and loss of appetite.

On admission she was in an emaciated state, the pulse 100, and rather weak, the tongue moist, and inclining to red, and the bowels open; but she had no diarrhœa. There is no pain in the limb, except when touched.—*To have nourishing diet.*

Dec. 26. It having been resolved that an attempt should be made to remove the sequestrum and save the limb, the following operation was to-day performed by Dr Handyside in the theatre of the hospital:—

The sequestrum not having yielded to moderate traction with strong forceps, an incision several inches in length was, with a strong scalpel, made down to the new bone, in the direction of the sequestrum; the soft parts were then dissected a little to each side, and the incision was carried through the substitute bone, down to the sequestrum, which being again seized with the forceps, now readily yielded to strong evulsive force, exerted in a rotatory manner. The operator, then, placing firmly a hand on each portion of the still bent thigh, proceeded to undo the distortion, by re-bending the substitute, which had been felt during the previous steps of the operation to be as yet soft and pliable, and which now yielded to moderate and continued extension.

The hemorrhage from the incision, though profuse, was now arrested by the application of cold, and a strip of dry lint having been inserted into the upper angle of the wound, a bandage was next applied. The patient being then put to bed, the limb was placed on a double inclined plane, with the view of effecting gradually still greater extension, and also as the knee-joint still remained semi-bent and stiff. An opiate was given, and ordered to be repeated at night.—*To have only the common diet of the hospital.*

Jan. 3. She expresses herself much easier since the operation, having slept more soundly than usual. So much of the wound as has not healed by adhesion, granulates kindly; and the limb, both at the seat of the operation and at the knee-joint, is becoming daily more straight, from the gradual extension, made by means of the M'Intyre splint.

An opening was made to-day to evacuate matter which had formed in the upper third of the thigh.

13*th*. There has been some constitutional disturbance for the st two days. Free dilatation of the above-mentioned opening was erefore to-day made, and was followed by the escape of much atter.

15*th*. Doing well; appetite improving.—*To have steak diet; and wo grains of quinine daily.*

Feb. 1. The wound, which was healing rapidly, has assumed a hagedœnic appearance.—*Intermit the steak and tonics; a poultice to e applied; and to have four grains of Dover's powder, twice daily.*

10*th*. The above symptoms have declined. Matter flows freely rom the openings.—*To have steak, and three ounces of wine daily.*

March 1. A wooden splint along the outside of the limb was ubstituted for the double inclined plane. She is now to rise, nd take exercise with the assistance of crutches.

April 1. The symmetry of the limb is much improved. A starch andage to be applied, now that the swelling is diminished. The ischarge from the openings has almost wholly ceased.

29*th*. The thigh is now only slightly bent outwards, the limb being hereby shortened about an inch. She walks with the ankle-joint artially extended, as in talipes equinus, resting the weight on the all of the foot, and thus compensating for the shortness of the limb. She has recovered the use of the hip and knee-joints, and can use the limb freely. Her general health is excellent. *Dismissed,— ured.*

Appearance of the Sequestrum.—On examination, it was found to be from four to five inches in length, and to involve the whole circumference of the os femoris at its middle, and also the entire thickness of that bone. The medullary canal is empty and pervious, except at the middle, where it is obstructed by a cribriform bony septum. The whole sequestrum is uniform in its appearance, and its distal extremity is rough and irregular, indicating that it has been detached at Nature's line of separation.

Remarks.—This case has been deemed worthy of notice from its peculiar nature, and from the success which has attended the treatment pursued.

In regard to its previous history, the case presents nothing very peculiar. The absence of an apparently sufficient exciting cause is of frequent occurrence, and the subsequent progress of the case is what might have been expected considering the treatment,—at first injurious, and subsequently inefficient,—which was had recourse to.

The shaft of the bone itself had been inflamed, both internally and externally, as indicated by the size and nature of the sequestrum—the upper end of which had become separated by the seventh month, as shown by the bending of the thigh, the substitute bone having been then either broken or bent, from its inability as yet to support weight or to resist force. The case had thus become seriously complicated, and it illustrates well the important practical indication, to support the limb during the progress of Necrosis.

The protrusion of the sequestrum is the next feature of importance, which, along with the free escape of the matter which had formed around it, afforded, as usual, great relief.

Hectic, however, had fairly manifested itself previously to the patient being sent to the Hospital; and her health was then considerably reduced.

Two lines of practice then presented themselves,—either the immediate removal of the limb, in accordance with the hitherto general rule, that, " when the necrosis is extensive and near a large joint, and when the new bone has given way and immense deformity and vast irritation resulted, amputation ought not to be delayed to save the life, if not the limb, of the patient,"—or on the other hand, by removing the sequestrum, to give the patient a chance of preserving the limb. In favour of the latter view, there was the probability, that the sequestrum had been already separated by the natural process, and being only bound down mechanically by the new osseous case, might therefore be easily and safely removed by operation,—that sufficient callus had now been formed to supply the place of the necrosed shaft, and that, though the thigh was greatly bent and distorted, from the giving way of the substitute, still such had not been the case for so long a period, as to preclude the possibility of rebending it, and afterwards modelling the bone anew. The patient's health also was not yet so far reduced as to render her unable to bear up against the subsequent calls on the resources of the system;—her time of life also was in her favour, and there was the probability that the hectic, instead of increasing, would cease, so soon as the sequestrum should be removed.

This line of practice was therefore followed, and it is fully borne out by the result of the case.

After the removal of the sequestrum at nature's line of separation, the bending of the substitute, the most interesting feature of the case, was safely accomplished, and without the employment of much force. The old and new bones were thus brought nearly into a line with each other.

The subsequent progress of the case is likewise interesting, the indications being—to restore still more the symmetry of the thigh by moderate and continued extension,—to restore the functions of the hip and knee joints by passive motion,—to support the system by nourishing food, wine, and tonics,—to evacuate, by timeous incisions, the collections of matter which formed from time to time,—and, lastly, by gentle and increasing exercise, to restore gradually the use of the limb.

This case, then, affords another example in corroboration of the propriety of the modern practice of removing large sequestra instead of the whole limb;—and it farther shows that a case may not be irremediable, as regards the healthy functions of the limb, although, from the giving way of the substitute bone, the greatest deformity may for a time have existed.

Case 2. *Complicated Fracture of the Os Femoris followed by Necrosis, with Protrusion:—Recovery after Amputation.*—Andrew Finayson, aged 18, farm servant, was admitted into the Royal Infirmary, under Dr Handyside, late in the evening of April 19, 1844, having, whilst intoxicated, been knocked over by a cart, the wheel of which had passed over, and injured the right thigh and knee-joint.

On examination, the right knee and the lower third of the thigh were found much swollen and discoloured. A nearly transverse fracture of the os femoris was easily recognised, a few inches above the condyles, there being great displacement, and marked deformity.

No fracture through the condyles or into the knee-joint could be discovered. The latter, however, was immensely swollen, and the seat of severe burning heat, and much pain. Two contused and lacerated wounds were visible on the outside of the joint; but they did not communicate with its cavity.

The accident happened in the afternoon, and the patient had been driven to the hospital in a cart, from a distance of ten miles. On his arrival there was no collapse, the skin being moderately warm all over, the pulse 100, and inclining to be full.

The fracture was immediately reduced. The broken ends, on being brought into accurate coaptation, were retained so, by the limb being placed on a double inclined plane, and one roller applied from the toes upwards to the knee, while another reached from the middle of the thigh downwards, over the seat of fracture. The limb was restored to its proper length.

The knee-joint being thus left exposed and free from traction, twenty-four leeches were applied over it, and hot fomentations ordered to be continued during the night. An opiate also was administered. The bowels had been previously opened, and the tongue was clean.

20th. Doing well; pain, heat, and swelling of the joint diminished.—*To be kept on low diet.*

21st. Swelling, pain, and heat of the joint increased; tongue white; skin hot, and dry; bowels opened by enema; pulse 120, full, bounding, and incompressible.

He was now bled from the arm to 14 ounces, which nearly induced syncope, after which the pulse fell to 100, and became soft and compressible. An opiate was then given, and repeated some hours afterwards, to meet the moderate reaction which ensued. *An ounce of the following mixture was ordered to be taken every second hour:—R. tartratis antimonii, gr. ii, bitart. potassæ ʒij, aquæ ℥xxiv. Solve.*

24th. Pain and swelling decreased. *Continue fomentations and the antimonial solution.*

27th. One of the wounds on the outer aspect of the joint now discharges much dark-coloured glairy serum, which appears to flow from the cavity of the articulation.

May 4. The above discharge has now become purulent; pain and swelling of the joint much less.—*To have the common diet of the hospital.*

20*th*. To-day the splint was removed, a slough having formed over the popliteal cavity. When the loose slough was removed, pus escaped freely, and appeared to come from the seat of fracture. The fracture was then found not to have made any progress towards union, although the ends of the bone had been easily retained in coaptation. The splint hitherto employed being found more available in this case than the straight splint of Dessault, was accordingly reapplied, and pressure made, so as to direct the pus towards the surface, and favour its escape from the seat of fracture.

25*th*. The ends of the bones now no longer remain in coaptation, the upper end rises over the lower, and the least motion or pressure causes such intense pain, that all attempts to remedy the displacement are fruitless. The discharge from the knee-joint and the seat of fracture continues free. Tongue rather red; pulse 100, and small; he has nocturnal sweatings.—*To have full diet, and an acidulated tonic mixture.*

June 20. Continues much in the same condition, only the hectic is becoming more evident.—*To have four ounces of wine daily.*

July 9. An opening has now formed in the soft parts, some inches above the inner condyle, through which a large sequestrum protrudes, which, on being handled, is found to be connected with the shaft of the os femoris. Some pus exudes along the lower surface of the sequestrum.

14*th*. An incision having been made down to the bone, two inches above the point where the sequestrum protrudes, much matter made its escape. The patient's health has rather improved since the bone protruded. The purulent discharge from the knee has ceased, and the wound on the outside has closed, but there is still dull pain in the joint.

24*th*. Tongue red, glazed, and aphthous; pulse 120, small and weak; hectic blush very marked; has had great nocturnal sweatings, but as yet no diarrhœa. The sequestrum still adheres firmly to the upper portion or shaft of the bone. The sloughing in the popliteal region has now extended so far that the flexor tendons are exposed, and the lower portions of the fractured bone can be felt bare and rough. *Amputation was now deemed inevitable.*

26*th*. The limb was accordingly removed to-day, by the double-flap operation, in the middle of the thigh. The flaps were necessarily oblique in their direction, owing to the sloughing condition of the skin above the ham, and the protrusion anteriorly of the shaft of the bone. The anterior and outer flap was formed by transfixion and cutting outwards, but the posterior and inner one was completed by cutting from the surface inwards, owing to the awkward position of the lower end of the bone. The bone was healthy vhere the saw was applied. About 4 ounces of blood were lost; 10 vessels were tied; 7 sutures were introduced, and a pledget of dry int, with a bandage, was applied to support the stump, which was ong and fleshy. An opiate was given on his being replaced in bed. Two hours after the operation, the pulse being 150 and weak, and the patient faint, 2 oz. of wine were given. Moderate re-action followed some hours afterwards, and was met by an opiate.

27th. Feels vastly better; pulse 140 and stronger; has slept and eaten well. To have 6 oz. of wine daily, in small and frequent doses, combined with a little light solid nutriment. No heat or pain in the stump.

29th. Pulse 130, full and soft; tongue less red; bowels open. The stump was dressed to-day for the first time. Primary union has taken place, except at the mere margin and outer commissure of the flaps, at the latter of which places a sloughing sore formerly existed. Most of the stitches were removed, and straps substituted.

Subsequently to this date, the case progressed favourably and without any thing remarkable occurring,—the ligatures came away in due time, the discharge ceased, and the stump became solid. The patient had a slight attack of bronchitis, which was completely removed by a blister, and on the 8th of September he was dismissed in good bodily health, with the stump solid and fleshy, and affording an ample and useful covering for the bone.

State of the diseased parts.—On opening the knee-joint, the synovial membrane generally, was found thickened and increased in vascularity. The articular cartilage, particularly over the condyles, was thickened, and appeared also to be vascular; while on the centre of the external condyle, a deep irregular ulcer was found penetrating through the cartilage to the bone, and communicating with the recently cicatrized external opening from which the matter had formerly flowed. The fracture was found to be nearly transverse, and about two inches above the condyles. The lower portion of the os femoris was partly overlapped by the upper, and the now empty cavity of a large abscess intervened. Both ends of the fractured bone were necrosed,—the upper end for about two inches in length, including the whole circumference of the os femoris,—and the lower end to a less extent. No new bone existed at these extremities, but began to show itself at about two inches from the end of each portion. Over the lower portion it extended as far down as the epiphysis, but not over it, and the upper portion was covered by a thick crust of new bone, for about three inches. The usual lines of separation could not yet be recognised. Lymph was found plentifully effused into the tissues surrounding the new bone.

Remarks.—This case is more particularly interesting, as showing how a case of Necrosis of comparatively limited extent may require amputation of the member, from the peculiar circumstances which may accompany the disease.

The violent synovitis, resulting from the injury of the joint, and running on, notwithstanding the most active antiphlogistic measures of which the case would permit, to suppuration, and latterly to ulceration of the articular cartilages, and surface of the bone,—combined with the profuse discharges early occurring from the seat of the fracture, could scarcely have failed to oppose, or at least to retard, the sanatory process of union of the fracture; but the possibility of this was effectually prevented, by the inflamed and subsequently necrosed condition of the fractured extremities of the bone. That necrosis, however, had actually taken place, was proclaimed by the sequestrum showing itself on the surface; and then the character, and consequently the treatment of the case, changed from one of disunited and complicated fracture, to one of Necrosis, complicated with deformity and with disease of an important neighbouring articulation.

Amputation might at this time have been justifiably performed; but, in consideration of the youth and constitution of the patient, an attempt was first made to combat the hectic, and afford nature an opportunity and time to detach the sequestrum, and furnish sufficient callus. The hectic, however, soon declaring itself strongly, and the case continuing to be further complicated by symptoms of ulceration of the articular cartilages of the knee, and sloughing in the popliteal region, it was at length unavoidable to have recourse to amputation. The chief indication after the operation was to extricate the patient from the danger of the shock, by bringing about re-action; and this being effected by carefully administered stimuli, he was comparatively safe, requiring afterwards only nourishing food, moderate stimuli and tonics, with the usual local treatment, to restore him to his former health.

Viewing the two cases at the period when the sequestra protruded, they present a remarkable contrast to each other. In both a large sequestrum protruded at the same spot; but in the *former* case it had already been undergoing separation, by a natural effort, from the living bone, and only waited for the co-operation of the surgeon. An ample substitute was already formed, and the powers of the system were yet able to furnish more; whereas, in the *latter* case, the sequestrum as yet adhered firmly, the system being unable either to effect the tedious process of separation, or to produce a sufficient callus, were the separation to have been completed by art; the joint also was still diseased; and lastly, the hectic was so advanced that there remained not the slightest chance of recovery, without having recourse to the summary measure at length adopted.

Although, then, we have seen it to be possible, in some cases of extensive Necrosis,—notwithstanding the existence of immense deformity,—to save not only life but limb, where formerly, to preserve life it might have been deemed necessary to sacrifice the member; it is obvious that other cases will still occur where any treatment short of this serious sacrifice, and the concomitant danger to which he is exposed from the operation, will fail to save the patient's life.

(*To be continued.*)

PART SECOND.

REVIEWS.

1. *Remarks on Schools of Instruction for Military and Naval Surgeons. By* SIR GEORGE BALLINGALL, &c. &c. *In a Letter to the Right Hon. Sir Robert Peel, Bart.* 8vo, pp. 16.
2. *On Schools of Naval and Military Surgery. A Letter to the Editor of the Medico-Chirurgical Review. By* SIR GEORGE BALLINGALL, &c. &c. 8vo, pp. 8.
3. *Outlines of Military Surgery. By* SIR GEORGE BALLINGALL, M.D., F.R.S.E., *Surgeon to the Queen, &c. &c. &c.* Third edition. 8vo, pp. 568. Edinburgh: 1844.

THE Medical Department of the United Service, we are assured, feel, in common with every Civilian who has had an opportunity of perusing these writings, a debt of gratitude to the respected Professor of Military Surgery in the University of Edinburgh, for his disinterested exertions to promote the cultivation of our common profession, and especially that department of medical science which comes more peculiarly under his own cognizance as a Teacher. Differences of opinion exist regarding the propriety of parceling out our professional duties into sections, and of appropriating one department exclusively to one class of practitioners. Such division of labour, we have observed, is more common in some parts of the empire than in others, and we have been frequently struck with the very opposite systems followed in cities by no means remote from each other,—in one, we find the *pure* physician, the *pure* surgeon, and the *pure* accoucheur,—in the other, we find the same individual practising, with success and distinction, all these branches. In the great majority of instances these matters are regulated by mere fashion or prejudice, and we are inclined to believe, that in civil practice, the individual qualified to discharge his duties with honour to himself, and advantage to the public in one department, is equally fitted to act in every other, providing that he be endowed with the nerve, tact, and anatomical knowledge necessary for the good performance of operations. In military practice, however, we admit that there are specialties which demand particular attention and study, and to which no man will devote the necessary labour except he hopes ultimately to turn it to some useful and practical purpose; in this category we include the subjects discussed in 106 pages at the beginning, and 66 at the end of the OUTLINES:—viz. *Selection and Examination of Recruits for the Army,—Diet, Clothing, and Exercise of Troops,—Accommodation of Troops in Camp, in Barracks, and in Billets,—Diseases in Camps and Garrisons,—Proportion of Sick and Wounded in Armies and Fleets,—Hospitals,—Transportation of Sick and Wounded,—Diseases of Troops on Foreign Stations,—Yellow Fever,—Tropical Dysentery,—Liver Disease,—Beriberi, and Burning in the Feet,—Dracunculus, or Guinea Worm, —Feigned and Factitious Diseases.*

A familiar acquaintance with these topics must evidently be a matter of vital importance to those appointed to the public services, and who may be immediately called upon, not only to administer to the sick and wounded, but also to propound laws of medical hygiène to governors, generals, and subordinate officers. The author informs us that he was not 48 hours in the army, when he was left in charge of two battalions, and these receiving recruits every day. Some previous knowledge of the peculiar duties he was thus suddenly called upon to perform at the very outset of his career, would certainly have given any young officer more confidence, under such emergencies, in his own resources.

In Sir George's letter to the Premier, the advantages which would accrue from increased facilities of studying MILITARY MEDICINE, are very ably, conclusively, and disinterestedly established. The letter is written after a personal inspection of the provisions made in France, Prussia, Austria, and Belgium, for the education of their army surgeons, which had forced upon his attention the very scanty provision for a similar purpose by our own government. To this task he has been prompted solely by a conviction of the paramount importance of the subject, for, as has been already stated, he has no personal object to serve,—no additional endowment to crave; on the contrary, the object of his ambition would be attained, were competitors for the students' patronage appointed in each of the metropolitan schools. He would restrict such appointments exclusively to the metropolitan cities, as he imagines they can neither be wanted nor advantageously conducted in provincial schools. With this opinion we are, upon the whole, inclined to agree; at the same time we must state, that there are some provincial localities where the facilities for studying every branch of the healing art are equal to those afforded by the metropolitan cities.

The question of expense, the all-important one in these days of economy and retrenchment, is thus discussed,—"What then would be the additional expense of all I propose,—the endowment of a professorship of military medicine and surgery in London, and in Dublin? *Two hundred pounds a-year*. Surely, Sir, this were a cheap compliment; surely it were a very becoming attention to the health of that army and navy which have served the nation so faithfully and so efficiently,—which have preserved the country from foreign invasion, which have protected its commerce in perilous times, and which have opened up vast empires to the spirit and enterprise of the British merchant."[1]

An unfavourable notice of Sir George's Letter to the Premier, in the *Medico-Chirurgical Review*, drew forth an able, conclusive, and temperate reply, addressed to the editor of that journal. We deem it unnecessary to allude more particularly to that masterly performance, as it was circulated with our number for June last; suffice it to state, that the review in question gave an opportunity, and suggested the propriety, of offering to his professional brethren some explanatory details, which would have been out of place in an address to the Minister.

The first division of the Outlines embraces numerous topics connected with the formation, discipline, and economy of armies, which, although not exclusively of a professional nature, are yet highly important to the health of the soldier. The second comprises the surgical accidents and diseases incident to military and naval men. The third division embraces the consideration of the most important diseases incident to troops on foreign stations; and of those semblances of disease which the military and naval surgeon frequently finds it more difficult to combat than the reality. The topics embraced in the first and third divisions have been already detailed *seriatim*.

The first edition of the OUTLINES appeared in 1833, and a very slight inspection of the present treatise will show that the author has let escape none of the facilities which he has enjoyed, during twenty years labour in the chair of military surgery. It is a matter of gratification that we may still expect to be pleased and instructed by his labours: and most sincerely do we hope that he may enjoy health and strength to carry his purposes into execution.

"To my learned and respected predecessor, Dr Thomson," says Sir George, "I feel greatly indebted, for an extensive series of sketches of the wounded at Waterloo, made on the spot, by himself and Dr Somerville. A selection of lithographic prints from these sketches, with short notes of the cases, would form a publication of peculiar interest to many officers, both medical and military, the survivors of that eventful day. Such a publication I have for some time contemplated; but whether I shall be able to accomplish it or not, I trust the subject will not be lost sight of, and in this expectation I have bequeathed these valuable sketches to my successors in office." P. viii.

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[1] Remarks on Schools of Instruction, p. 15.

The title of "Outlines of Military Surgery," appears somewhat inappropriate and ill-chosen, when applied to a work which treats, as we will presently see, not only of surgery, but also of medicine and hygiène; but the author's explanation is so far satisfactory.

> "The term Military Surgery has been considered inappropriate to this department of medicine, as having too limited a signification, where a large proportion of the practice, in peaceable times, falls distinctly within the usual province of the physician; but I can see no great impropriety in applying to this subject as a whole, a term analogous to that which has at all times and in all countries been applied to its practitioners; it is indeed by no means unnatural that the art and its professors should have taken their designation from that branch of it which, upon all great and momentous occasions, constitutes its most distinctive feature. But, farther, I maintain, that the education of every man destined for the public service should be primarily and essentially surgical; no good nor well educated surgeon can be destitute of that knowledge of physic which will enable him, upon all occasions, to acquit himself with judgment and discretion, while, on the other hand, a man educated exclusively to physic, without the knowledge and also the practice of surgery, will, upon many occasions, be found a most inefficient follower of the camp. Of this several instances have fallen under my own observation, some of them abundantly ridiculous, were not the sense of ridicule lost in the inconvenience.
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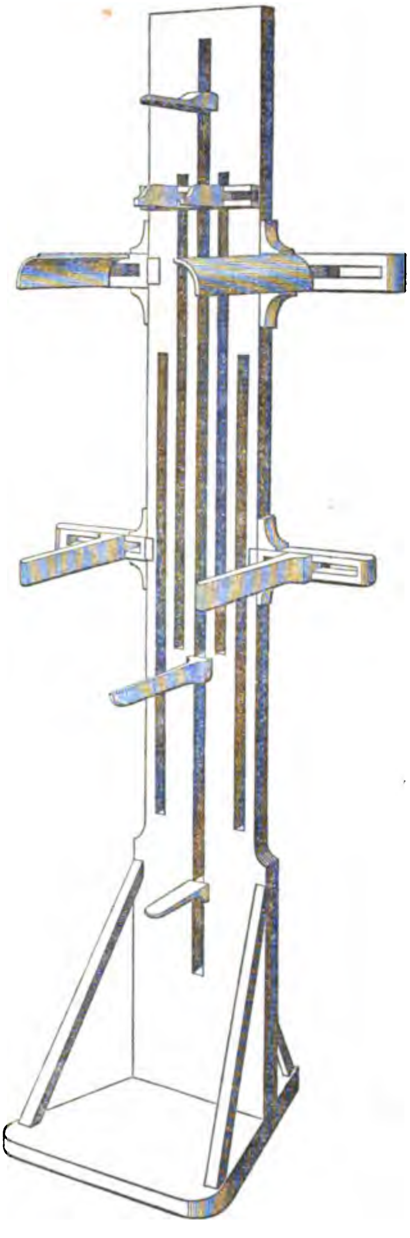
> "In this view of the matter I am fully borne out by the existing regulations of the British service at the present moment. By an edict of his late Majesty, the appointments of physicians and apothecaries to the forces were annulled, while the surgeons and assistant-surgeons retain their place; and it is not a little curious to observe, that after repeated changes in the designation, rank, titles, and implied acquirements of the medical officers of the army, we should now appear to be acting in conformity to the sentiments which prevailed upon this subject two hundred years ago." P. 3.

On the subject of "*selection and examination of recruits for the army*," we have few remarks to make. The preference to shepherds, agricultural labourers, &c., over the manufacturing population, is founded on accurate statistical information, and the inefficiency of boys, and very young lads, as recruits, seems equally well-founded;—the most suitable age appears to be from twenty to twenty-five years. The predilection for men of lofty stature is shown to be ill-founded; they appear to be more liable to pulmonic complaints, and diseases of the chronic class, and are likewise easier fatigued than men of medium size. Besides, in modern warfare, the fate of battle is frequently decided by fire-arms, which do not require the aid of a man of extra size or strength. The standard height in the British service has varied from time to time; at present men are not taken under five feet six and a half for the infantry, and five feet seven for the cavalry.

We have much pleasure in making known the following ingenious plan of measuring the human frame, which, we think, may prove very useful, not only in the army and navy, but also in those circumstances in which it is necessary to examine parties carefully for Life Assurance Societies. The application of the ANDROMETER is abundantly simple: and it shows at a single glance whether the various regions of the body be relatively well proportioned.

"With a view to determine the most eligible proportions for recruits, I have long been of opinion that the *Andrometer*, or man-measurer, might be advantageously employed. This instrument, which is deposited in the museum of the class, and has been shown to many military officers, and to the students of military surgery in this University, for a series of years, is the invention of Mr Macdonald, tailor in Edinburgh. It was contrived with a view to the more accurate and economical cutting of the soldier's clothing, but is, in my opinion, adapted to other and more important purposes, both civil and military;—the admeasurement of recruits,—the identification of deserters, or of prisoners who may have escaped from justice,—and, perhaps, in some degree, to the due allotment of hard labour to criminals,—a use of it suggested by some questions put to me by Mr Hill, the Inspector of Prisons. From an inspection of the marginal sketch, it will be seen that this instrument gives the height of the individual as taken by the common standard; it also gives the girth or diameter of the neck; the breadth of the shoulders, and of the pelvis, respectively; the length of the fork; the comparative length of the thighs and legs; that is, the distance of the knees from the pelvis above, and from the foot below." Pp. 31–33.



"*The proportion of sick in armies and fleets*," forms an interesting chapter, which will prove very valuable for reference, but it does not admit of being abridged.

The reader will find the chapter on hospitals to contain a fund of information on the history, construction, internal arrangement, and management of military hospitals, not to be met with in any other single treatise. The author has availed himself of the experience of Sir John Pringle, Sir William Blizard, Dr Jackson, Dr Donald Munro, Mr Guthrie, Sir William Burnett, Mr Alcock, and, indeed, of almost every writer on the subject. The necessity of cleanliness and thorough ventilation are strongly insisted upon.

When military hospitals are overcrowded, too long occupied, or filled with a relay of fresh cases immediately after the removal of the old, results the most fatal are the consequences.

In March 1837, after an action, the surgical hospital at San Telmo afforded a striking example of this. "There were thus," says Mr Alcock, "1041 patients in the hospital of the Legion, calculated to accommodate, with due regard to health, 800; the chief press of the extra numbers fell upon the surgical hospital of San Telmo." The following gives the melancholy result:—

"17	Primary Amputations,...............	2 recoveries.
4	Intermediary,............................	all died.
3	Secondary,...............................	1 recovered.
—		—
24 cases.		3 recoveries."[1]

From the following passage it appears that the upper floors are more salubrious than the lower.

> "In a very interesting and valuable paper, on the 'Nature and History of the March of Poison,' by Dr Willian Fergusson, published in the Transactions of the Royal Society of Edinburgh, he observes, that "no experiments hitherto made have enabled us to pronounce whether it is specifically heavier or lighter than common air; but it evidently possesses an uncommon and singular attraction for the earth's surface, for in all malarious seasons and countries the inhabitants of ground floors are uniformly affected in a greater proportion than those in the upper stories. According to official returns during the last sickly season at Barbadoes, the proportion of those taken ill with fever, in the lower apartments of the barracks, exceeded that of the upper by one-third, throughout the whole course of the epidemic.
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> "Of this exemption from disease in the upper floor of a barrack, while it raged below, a very remarkable instance fell within my own observation in the 69th regiment, at that time quartered in the fortress of Seringapatam, and occupying a building which had formerly been one of Tippoo's palaces. I recollect also in the large hospital at Sourabaya, in the island of Java, one of the best hospitals I have ever seen, we used to remark the more rapid convalescence of patients upon the upper floor. Indeed the lower story of this building was very judiciously appropriated to the necessary offices of the establishment, and but a small portion of it was occupied by the sick." P. 78.

The food, clothing, and exercise of troops, are subjects well worthy the attention of the medical philosopher. A proper quantity of plain, substantial food is indispensable, and, when circumstances permit, it should be issued daily;—when salt rations are used, means should be used to extract the salt, and some vegetable substance should be taken along with it. The use of tea and coffee for breakfast, which has been recently introduced into the army, is equally agreeable to the palate, and beneficial to the health. The baneful effects of dram-drinking amongst our soldiery, especially in hot climates, is clearly pointed out, and various judicious suggestions proposed for the prevention of the demoralizing habit.

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[1] Lancet, 1840-41.

The dress and appointments of the soldier are exclusively the business of the commanding officer, but the medical officer may suggest improvements. The author, in opposition to Dr Trotter, thinks flannels, in many situations, highly useful.

Regular exercise cannot be neglected with impunity. Sir George agrees with Sir John Pringle, that "although a soldier is occasionally liable to great fatigue, the most frequent error of people of that class, if left to themselves, would be on the side of rest." A rate of marching from three to three and a-half miles an hour, will perhaps be found the most eligible pace in all climates.

The chapter on the accommodation of troops in camp and barracks, is both interesting and important, but we can only spare space for the account of the method of ventilation recommended.

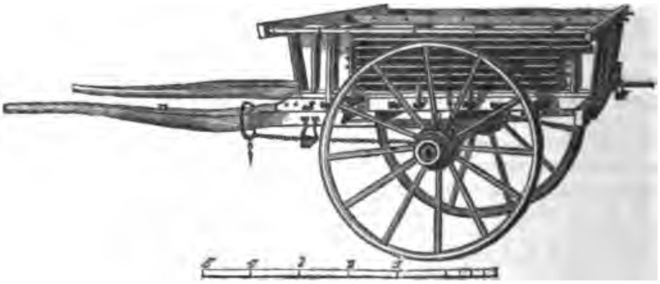
> "The essential part of the mode of ventilation which I would recommend, is to convert the passages, lobbies, and staircases of a barrack or public building into spacious air trunks, or reservoirs, communicating directly with the external atmosphere, and supplying the rooms adjoining them on either side, both by means of the doors opening into such passages, and by means of additional apertures made for the special purpose of ventilation. Thus, at either extremity of the passage, there should be a window reaching from the ceiling to the floor of each story, the upper part capable of letting down, and the lower of lifting up, so contrived, however, as not to shut perfectly close at either top or bottom, but to leave a slip or aperture at least two inches wide, forming at all times a direct communication with the external atmosphere; and in fine weather, these passage-windows may remain open to any extent, giving the most unlimited access to the external air. In the floor of each passage one or more apertures should be made of at least two feet square, covered with strong iron gratings, and in the roof a properly sheltered aperture or penthouse, so as to admit the escape of the air outwards, while it effectually prevents the entrance of snow or rain.
>
> "By this direct and perfect communication of all the passages with the external atmosphere, as well as with each other, a constant supply of pure and unrespired air will exist within the building. To place the passages thus prepared in action as ventilators, there should be placed over each of the doors opening from them into the adjoining apartments, a Venetian window reaching to the ceiling, while the door itself should not reach within an inch of the floor; but the principal dependance for a uniform supply of air should rest on means independent of the ordinary openings, and may be effected in the following manner:—Into each room, on a level with the floor, let apertures be made of six or eight inches diameter, and from ten to fifteen feet distant from each other, communicating with the passage or main air-trunk; and the same description and number of apertures are to be made close to the ceiling, corresponding with the unbored spaces of the lower range of air-holes, it being observed that this upper row of perforations must be conducted through the exterior wall of the building communicating directly with the external air, and so disposed as to prevent the access of rain or snow. By this means we provide for a constant supply of unrespired air from the passages or reservoirs, by means of the lower range of perforations, while the respired and heated air is permitted to escape by the upper range." Pp. 52, 53.

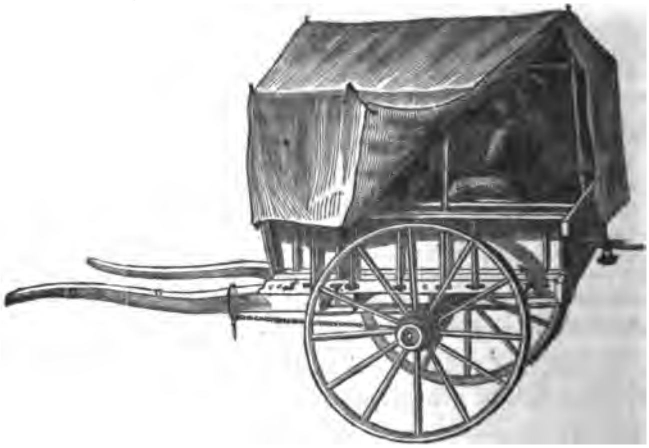
Some diversity of opinion exists regarding the quantity of air necessary for a sick or convalescent being. Tenon states the proper allowance for a convalescent patient to be 6½ cubic toises of air, and for each sick person 7 cubic toises.

"In the Berkshire County Hospital, of recent construction, this space is 953 feet for each patient, according to an estimate kindly furnished to me by Mr May the senior surgeon. In the surgical wards of our Infirmary, it is about 1100 feet; and in St George's Hospital more than 1600 feet, according to an estimate with which I have been favoured by Sir Benjamin Brodie." P. 79.

The author insists upon an effectual provision for the transportation of the sick and wounded. An hospital corps for this purpose should be placed entirely at the disposal of the Medical Staff, and not called into existence on the spur of the moment, without training or preparation. The whole of this section of the work is replete with information which must prove of great service to the medical officer in his first campaign, but we can only avail ourselves of the account of Mr Cherry's machine for the removal of sick and wounded.

"It is a light single-horse cart, so constructed as to be readily adapted either to the carriage of stores and provisions, or to the conveyance of wounded men; for these two different purposes, a great part of the frame-work of the cart is moveable, and capable of being adjusted to the object required. In the state here represented, this carriage is adapted to the conveyance of provisions: and it will be observed that a number of moveable spars or poles are stowed on the outside of the cart, which may, in a few minutes, be unpacked and placed





upright round the frame-work, adapting it to the carriage of bulky articles of forage, such as hay or straw. Some of these spars, again, are fitted to be placed as ridgepoles on the top of the uprights, for the purpose of supporting a canopy for the protection of the sick or wounded. It now becomes a most commodious sick-cart, capable of conveying one person lying at length on a bearer within, or four men sitting erect on seats, which are suspended from a rope running round the interior of the cart, and giving the advantage of its elasticity in addition to the springs. The seats, when not used for this purpose, form a moveable part of the bottom of the cart, under which are boxes for containing the bearer and canopy, when not wanted for their respective purposes. The most ingenious part of the contrivance is that by which the ordinary springs of a cart or other carriage may be protected from injury when carrying heavy loads, while, at the same time, it admits of their free use when light loads are carried. This is effected by two moveable blocks sliding along the axletree; and which, by means of a lever connected with them, may either be moved outwards under the frame-work of the cart, so as to make its weight bear directly on the axle without injuring the springs; or, by turning the lever in an opposite direction, the blocks may be withdrawn from under the side-pieces of the cart into the hollow space formed by their thickness, and the springs thus again brought into action. This is represented in a plate contained in the 38th volume of the Transactions of the Society for the Encouragement of Arts; the silver medal of which society was awarded to Mr Cherry for this part of his invention. The woodcuts give but an imperfect idea of the ingenuity of this contrivance, and the variety of purposes to which it is applicable; but these are perfectly intelligible from the model which I have had the pleasure of showing to my pupils for many years past, and which Mr Cherry has been kind enough to present to the museum of the class." Pp. 103, 104.

We have had an opportunity of examining the model in the Museum of Military Surgery, and agree with the author that the ingenuity exhibited in its mechanism cannot be fully understood by the woodcuts, although they seem very accurately executed.

The second division of the work embraces the surgical diseases of soldiers and seamen. This subject possesses less novelty to the civilian than those already discussed; we shall, therefore, confine our notice to a few topics, in the hope that our readers may be induced to examine and study the work for themselves. The surgical diseases are discussed in the following order:—*Inflammation; Burns; Ulcers; Scurvy and Scorbutic Ulcers; Hospital Gangrene; Wounds; Incised wounds; Punctured wounds; Poisoned wounds; Lacerated and Contused wounds; Gun-Shot wounds; Wounds of Arteries; Aneurism; Wounds of Nerves; Tetanus; Wounds of the Head; Wounds of the Spine; Wounds of the Face and Neck; Wounds of the Thorax; Wounds of the Abdomen; Wounds and Fractures of the Extremities; Luxations; Amputation; Ophthalmia; Syphilis; Gonorrhœa; Strictures; Diseases of the Rectum and Anus; Punishments.*

Hospital Gangrene is a subject alike interesting to surgeons in charge of military and civil hospitals. It is a well established fact, that wherever too many living beings are congregated in an apartment, the atmosphere is very soon rendered unfit to support life; when the crowd is composed of the sick and the maimed the consequences are sooner perceived, and are made manifest before life is placed in jeopardy. The reparation of all injuries is very much influenced by the state of the atmosphere in which the patient is placed.

When circumstances are in this respect favourable, adhesion of incised surfaces takes place readily, and granulation progresses speedily and steadily; whereas, these processes are more or less tardy and uncertain, according to the extent of the deterioration which the air has undergone. The nature and the extent of the change which occurs in the atmosphere of hospitals, is frequently beyond our powers of analysis, (like the gaseous matter which generates cholera, yellow fever, or ague, which cannot be detected by chemical reagents), but it invariably manifests its existence by exerting a most baneful influence on the condition of ulcers, wounds, compound fractures, and indeed of all surgical cases.

The following passages are too interesting to be passed over:—

"In a recent work on traumatic gangrene, by M. Ollivier of Paris, the author questions whether this disease has ever prevailed epidemically in consequence of a general atmospheric cause. But, in small crowded wards, the gangrene may, he thinks, be transmitted from one patient to another through a vitiated atmosphere. Numerous experiments and observations are noticed by Ollivier, as those of MM. Dupin, Richerand, Dupuytren, and Willaume, tending to establish its non-contagious nature; others, as those of MM. Pointe, Danillo, Clerc, Vautier, and Delpech, leading to an opposite conclusion. Dissatisfied with these contradictory results, he deemed it necessary to establish its contagious nature by a direct inoculation, made with virus taken from its source, and inserted into an individual not exposed to the ordinary epidemic causes which prevail in hospitals; an individual in good health, and altogether independent of every cause which could in any other manner favour the production of the disease.

"To ascertain this disputed point, Ollivier determined on inoculating himself, and matter for the purpose was obtained at Ecija. It was taken from a case of the very worst description, and was inserted near the humeral attachment of the deltoid muscle of the right arm, by M. Ganderax, in presence of all the surgeons of the medical staff at Ecija. The author was then in his twenty-first year, of a very nervous constitution, but otherwise in pretty good health. The operation was performed on the 17th October 1810, at six in the morning. During the following day he was on the road from Ecija to Carmona, and felt no inconvenience. On the 19th, a vesicle, with a red areola, made its appearance; and by the 22d, the part had assumed all the appearance of the author's second variety of hospital gangrene, when he was induced to interrupt its progress by removing the sloughs, rubbing the surface with nitrate of silver, covering it with the same substance in powder, and dressing it with charpie dipped in camphorated spirit of wine. On the 24th he was induced to take bark, apprehending a constitutional affection from a swelling of the axillary glands. The wound was dressed regularly in the manner before mentioned, and was not cured until the 28th day. 'This experiment,' says Ollivier, 'undoubtedly seems to prove the contagious property of traumatic gangrene. The facts which oppose this conclusion most assuredly depend on some peculiarity of constitution, or some favouring circumstances, which enable certain individuals to resist in general every kind of infection.'

"Several facts which have come to my own knowledge, tend to establish the occasional production of gangrenous ulcers by direct inoculation; and of these, one of the most remarkable was recently stated to me by Deputy-Inspector Marshall. Ulcers of this description prevailed to a great degree in the hospital of a regiment stationed at Feversham, in 1806, insomuch that several men had each a limb amputated, and some punished men died. It was at last discovered that all the sores in the hospital were washed with one sponge. The sponge was destroyed, and this mode of cleansing sores interdicted, after which not a single case of the disease occurred.'" Pp. 168, 169.

In some hospitals the use of the sponge is completely exploded, and in its stead surgeons' lint is used at both operations and dressings; we confess this practice seems to us to be carrying the dislike to the sponge to an absurd length. It certainly possesses many advantages over lint; and if it does not admit of being properly cleaned, a new piece may be had for each operation nearly at as little cost as the necessary quantity of the substitute.

Professor Brugmans of Leyden has ascertained by analysis that the air of unhealthy wards contains a peculiar animal matter highly disposed to putrefaction—that the quantity of oxygen is diminished, and the quantity of azote and carbonic acid proportionally increased, while the presence of sulphuretted hydrogen is also to be detected. It has also been ascertained, that partial deteriorations take place at different elevations, even in the same ward.

The author seems to look favourably upon venesection in the treatment of this formidable affection, " in the early stages of the disease, amongst young and vigorous soldiers, who have not been long confined by their wounds, or debilitated by the effects of a protracted campaign." We have never met with a case in which such a remedy was admissible, and did we deem depletion called for, we would exhaust the category of adjuvants before resorting to the lancet, in case the incision (however trifling) might assume the morbid action, and induce fatal phlebitis—a circumstance by no means uncommon in some of the large hospitals of this country. We believe that the grand source of safety lies in diminishing the number of the inmates, and thoroughly purifying the apartment. Or in the language of Dr Hennen:—

> " But the grand source of safety to the individual is a removal to a distant and separate ward. . . . .
> I have witnessed hundreds of cases in confirmation of this; I have seen the men, who, on the first day of a transfer from one hospital to another, have been obliged to be assisted into the boats or waggons, or held on mules, enjoy a sound night's repose, awake with a craving appetite, have a free, copious, and natural alvine discharge, and proceed on rapidly towards a convalescence or cure, which has only been interrupted by their arrival at an hospital station. When I reflect, on the other hand, on the poor sallow dejected beings that have pined in the hospitals; the flabby, non-adhering, inanimate stumps, lined with a discoloured, half-digested sanies, which disappointed my most sanguine hopes, —I shudder at the contrast."—*Military Surgery*, p. 272.

But in case our remarks may lead the reader to suppose that ventilation is overlooked in the work before us, we give the concluding sentence of this section:—

> " The necessity of attention to thorough ventilation, and to perfect cleanliness, is acknowledged by all, even by Mr Blackadder, the most strenuous advocate for the local character of the disease; and when these essential points cannot be otherwise attained, I am disposed, with Dr Hennen and Mr Bell, to recommend the breaking up of the hospital, and the temporary dispersion of the sick." Pp. 176, 177.

The section on Wounds is, throughout, highly interesting as well as instructive; but we regret the length to which this notice has already extended, prevents us from giving more than a single passage on poisoned wounds:—

"There is one description of punctured wounds which requires particular attention, namely, those inflicted by the bites of rabid animals, and venomous serpents. These form frequent objects of attention to military surgeons when serving on foreign stations; and it is much to be regretted that so little practical information of a satisfactory kind is to be met with on this subject. This naturally happens from the little inclination which a professional man feels to write upon a class of accidents where both the curative and the preventative means usually recommended are so little to be depended upon. When the peculiar symptoms resulting from poisoned wounds have once supervened, the recoveries are extremely few; and when these symptoms are supposed to have been prevented, we are always left in doubt whether this has been the consequence of our measures or not.

"It has been my fortune, whether good or bad, to see a greater number of deaths from the bites of rabid animals than most of my standing in the profession. I have seen not less than six cases of hydrophobia, each of them exhibiting a most distressing combination of mental agony with bodily torment, and each of them pursuing an uncontrollable course to a fatal termination. The prominent symptom characterising the disease—the dread of water—with spasms and convulsions, was present in all of them; and the means of treatment employed were opium, ardent spirits, copious bleeding, and warm bathing. Besides the six fatal cases referred to, I recollect three others; in one of which the occurrence of hydrophobia was supposed to be prevented by producing suppuration in the wound, and salivating the patient. In the other two cases, I am induced to believe that hydrophobia was obviated by an early excision of the bitten part.

"While stationed at Hyderabad, in the year 1810, four soldiers were brought to me early one morning, all of whom had been bitten by the same dog, in the course of the preceding night; two of them in the early part of the night, and the others towards morning. The bitten parts were, in all of them, immediately excised, and the wounds dressed with stimulating ointment, so as to induce suppuration. The result was very remarkable; the two who had been bitten in the early part of the night died hydrophobic; while the two others who had been bitten in the morning, and in whom the virus could not possibly have lodged more than an hour or two, never had any symptom of hydrophobia. In a late number of the *Journal de Pharmacie*, several remarkable examples are given of the good effects of the actual cautery in cases of patients bitten by mad dogs, at Martinique and at Dijon." Pp. 198, 199.

The section on Wounds and Fractures of the Extremities will repay a perusal. The principal artery of a limb is frequently cut across by a sabre wound, and too frequently the soldier's life is lost before assistance can be had. When an opportunity of tendering our service is afforded, the propriety of instantly securing *both* ends of the divided vessel is undeniable. It sometimes happens that the nerves are cut across, and wasting and paralysis more or less complete are the usual consequence. The removal of the limb is not always called for under such circumstances; we must be guided by the peculiarities and appearances of each individual case.

In some rare instances the bone, along with the greater part of the soft parts, has been cut across, and the limb afterwards preserved. The following is a case in point:—

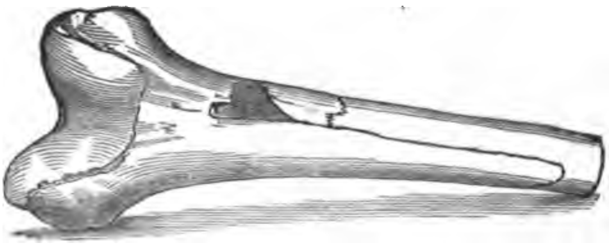
"A Jemadar of the Nabob of Masulipatam, received a sabre wound, passing obliquely across the arm, dividing the belly of the biceps muscle and the bone. The attendants described the stream of blood as having been very profuse, and projected several feet, from which circumstance, and the absence of all pulsation at the wrist, it was concluded that the artery was divided. The hemorrhage was stayed, in the first instance, by a turban wrapped tightly round the rm; and as the Nabob firmly opposed the amputation of the man's limb, the urban was cautiously removed, the lips of the wound approximated, a splint laced under the arm, and a tourniquet applied loosely on the upper part of it. No hemorrhage supervened; the pulse was barely perceptible at the wrist on he third day. On the twenty-sixth day the wound was nearly all cicatrised, n the forty-fifth the bone was firmly united; but as might have been expected, the arm that was saved proved of little use." Pp. 321, 322.

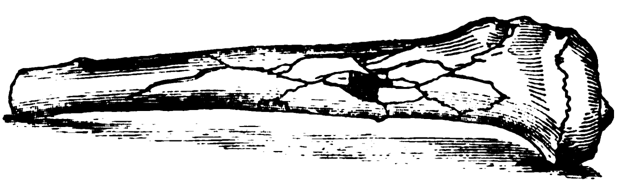
Sir George believes, that the risk of tetanus from punctured wounds has been overrated, and in confirmation of this opinion, refers to the experience of Mr Marshall, who did not meet with a single case of tetanus in a hundred cases of arrow wounds, in Ceylon.

The escape of an artery lying in the track of a ball, or of a penetrating wound, is often very remarkable, and is probably owing to the elasticity of the vessel, which enables it to recede. Mr Guthrie is in possession of a preparation, where a ball passed between the femoral artery and vein, without injuring either. The trifling hemorrhage which occasionally takes place when a part of the body is torn away by machinery, or by a ball, is well known, and is generally to be explained by the syncope, the retraction of the vessel, the puckering of the internal coat, or the matting together of the soft parts around the orifice of the vessel.

Simple fracture, both in civil and military practice, is generally an accident not attended with much risk; but the soldier, in many cases, is desirous of making such an accident the means of his release from the service, and therefore exerts himself, not to aid the surgeon,—but to counteract the appliances of his art. Imperfect recoveries were at one time so common, that they were particularly adverted to in a circular letter by Sir J. M'Gregor and Sir William Franklin.

The following description of fractures is seldom met with in civil practice.





"In gun-shot fractures, one of the most characteristic features is the extensive comminution and splintering of the bone with which they are attended, and of which I here give an example out of many similar ones to be seen in the museum. Here also, in the first of these figures, is an example of the splitting or longitudinal fracture of a bone, an occurrence, the possibility of which became, at one time, a subject of discussion in the French Academy of Surgery, and the existence of which was first demonstrated to the satisfaction of that body by Levillé, in the tibia of an Austrian soldier. It is remarkable, in both these preparations, that as, in passing through the soft parts, a ball generally leaves an aperture more rugged and extensive at its exit than its entrance, so, in these two cases, the comminution is greatest, and the longitudinal fissure most extensive, at the point where the ball has made its exit from the bone. This longitudinal fissure, of which we have numerous examples in the museum, and which, in the present case, extends nearly six inches upwards from the site of the wound, is so common an occurrence, that it is right to estimate for it in determining on the point of amputation in gun-shot fractures." P. 337.

The question of amputation and excision in severe cases of the above description, and in those in which the joints are laid open, is fully and ably discussed; but we must refer the reader to the original source, as we have not space to quote the whole, and do not wish to garble the argument.

Amputation.—Bilguer, so far as we know, has left no followers, and the first question which presents itself for consideration is,—if amputation be judged necessary, at what period after an injury is the operation to be performed? This question has at various periods, in the history of surgery, divided the profession into two parties; the one maintaining that the operation should be performed immediately, or within twenty-four hours after the accident, the other party asserting that it should be delayed till the shock and consequent reaction have worn off, and the suppurative process be fairly established. It has also been performed at an intermediate period, but it is not recommended at this stage by any experienced surgeon. This three-fold division into primary, secondary, and intermediate, is necessarily very arbitrary; the period at which the symptoms of inflammation—the pain, heat, redness, and tumefaction—show themselves, depends entirely on the nature and seat of the injury, the age, habits, and constitutional idiosyncracy of the patient: it may commence in eight or ten hours, and in some instances after thirty; but if an operation be performed after this has commenced, it is no longer primary, whatever may have been the delay.

For delayed amputation, we have the names of Faure, Le Conte, and John Hunter, and in the opposite ranks we find Guthrie, Hennen, Thomson, Hutchison, Hammick, and Barons Larrey and Percy. Perhaps both parties, in their anxiety for the promulgation of their respective opinions, have gone farther than correct statistics entitle them. Sir George's opinion on this subject is well worthy of attention, and we therefore plead no apology for the following somewhat lengthy extract.

"The comparative success of primary over secondary amputation, which has been so generally observed in military hospitals, does not take place to the same extent in civil hospitals. Upon this point I have had as good an opportunity of forming an opinion as most of my contemporaries, having now served thirteen years in the former, and more than twenty in the latter. In civil hospitals, the comparative success of primary amputation has been by no means so great as that which I was accustomed to see and to hear of in the army. Sanson, who has noticed this fact, has assigned several reasons obviously leading to a different result; and among these, the moral influence of the different circumstances under which a patient is received into a civil and into a military hospital, has always appeared to me one of the most important. A tradesman, who has perhaps an indifferent constitution, and a wife and family dependent upon his exertions, is admitted with an injury requiring amputation, which may be the result of an accident originating in intoxication, ignorance, or folly, and by which he finds himself suddenly reduced to misery and dependence; while the soldier again, with a constitution originally sound, and accustomed to contemplate such an accident, loses his limb in a good cause, under circumstances creditable to himself, and duly appreciated by his country, from which he is certain of a pension for life.

" In addition to the powerful effect which this moral contrast must necessarily produce, there is a physical cause operating, which I believe to be one of the most influential, though one of the least observed. A soldier going from a filthy billet, or a crowded barrack-room, into a clean, well-aired, and well-regulated military hospital, goes often from a worse atmosphere into a better, while a mason or house-carpenter, accustomed to work all day in the open air, is taken into a large civil hospital, constantly occupied with its full complement of patients, and having its atmosphere thereby necessarily vitiated. This circumstance operates, I know, particularly upon patients from the country, almost every one of whom, upon admission into our hospitals, goes through a febrile attack, frequently indeed of a transient or ephemeral character, but sometimes of a serious nature. In cases coming in from the country, with chronic diseases requiring operation, it becomes an important consideration for the surgeon, whether he should operate immediately, and let the symptomatic fever of the operation and the house fever go together, or let the patient go through his seasoning, before he proceeds to operate. I have given a good deal of attention to this point, and am of opinion that the former is, generally speaking, the best practice.

" Of late we have had numerous interesting and valuable statements of the results of amputation. The statistics of this subject, as regards primary and secondary operations, have been given from the American, French, and British hospitals, by MM. Gendrin and Malgaigne in France; by Messrs Phillips, Lawrie, and others in this country. Statements, more particularly bearing upon the comparative results of amputation, in reference to the injuries of civil and of military life, have been given by Mr Alcock. He has very properly adverted to a description of cases which, in the usual statements on this subject, have been too generally overlooked, and specifies, as an intermediary class of operations, those which are performed in the second or intermediate period of the three stages, to which I have already adverted in gunshot-wounds, viz. the stage when ' the inflammatory action has set in, and is more or less capable of disturbing the animal economy.' As this, however, is a period which no one, I believe, advocates, or adopts from choice,—a period, in short, in which amputations are looked upon as compulsory, and undertaken with reluctance, their number is not likely to be great, and the main question comes again to lie between primary and secondary operations. Mr Alcock's statements do not go the length of overturning the doctrine so long inculcated by the most distinguished army surgeons, of the superior success of primary amputations in military life, but they tend to confirm the opinions expressed upon this point in the former editions of this work, and to show that this doctrine has been too extensively and too indiscriminately applied.

" Notwithstanding all that has of late been written upon this subject, I think we are still in want, as bearing upon military practice, of a simple and comprehensive statement, upon a large scale, of the results of amputations performed within the first twenty-four hours, and those performed at a subsequent period; giving credit to the surgeons for a due selection of cases, and having reference to the climate, to the period of the year, to the locality, to the nature and extent of the accommodation for the wounded, and particularly to the performance of the operations, in a victorious or in a discomfited army,—circumstances which are well known to influence, in a great degree, the result of every disease, accident, and operation." Pp. 370-372.

The substance of the latter part of the second paragraph, just quoted, well merits a more serious consideration from hospital surgeons than it has hitherto received. We are inclined to believe that the symptomatic fever of the operation, and the house-fever, will be better borne separately than together. We question the propriety of sending patients from rural districts to large crowded hospitals for the purpose of undergoing an operation;—they soon loathe their food;—their general health rapidly suffers;—a rigor precedes a febrile attack, and, in too many cases, the life is placed in imminent jeopardy, independently of the risk consequent upon any operative procedure. So far as our experience enables us to judge, no operation, however trifling its character may be, ought to be attempted after the patient has had a rigor, until he has finished "his seasoning." We have a very vivid recollection of many cases corroborative of the baneful effects of performing even a very insignificant operation in a crowded ward, after the patient has complained of a "chill." Not many days ago, a patient admitted for a uterine polypus, into a large hospital, had a rigor after the first examination *per vaginam:* the tumour, notwithstanding, was secured with a ligature; and as we predicated from the first, the sufferer died of phlebitis. Sir George, we presume, means to recommend the surgeon to operate before any of the symptoms of house-fever manifest themselves, and that the operation-fever should thus be made to take the place of, or supersede the other.

We agree, on the whole, with the author's remarks on the comparative merits of the two modes of amputation in general use, viz., by the circular method, and by double flap. The latter is much more easily performed, and can be executed in a much shorter time than the former; but the preference which was a few years ago assigned to it, is not now so generally granted, and many of our best operators are reverting to the circular method.

Sir George appears to entertain an unfavourable opinion of the operation at the lower third of the leg: he says,—

> "With reference to amputations lower down in the leg, I think it right to apprise my readers of the following fact: Of thirty-four soldiers admitted into the 'Hôtel des Invalides' after the Russian campaign, with their legs amputated immediately above the ankle, twenty-two had such bad stumps as to induce them to submit to a second amputation below the knee." Pp. 385, 386.

We have never failed in procuring excellent stumps after operations at this part of the limb, and in old or debilitated subjects, we think it merits the preference on all occasions. When a mechanical contrivance, such as that delineated at page 81 of the present volume is used, the patient has a very useful stump indeed.

On this subject we refer to a valuable paper published in the *Medical Gazette* some years ago, by Dr Lawrie of Glasgow. We think we could show Sir George cases which would lead him to entertain a very different opinion of the operation above the ankle-joint. We may briefly allude to the case of a sailor, who had his limb amputated at this part, and who was enabled, by means of the apparatus already referred to, not only to follow his usual arduous duties on deck, but also, by means of a hook inserted on the front part of the artificial limb, to ascend aloft with ease and rapidity. So far as we know, the patient still survives, and is occupied as a seaman. We can refer to many almost equally striking cases.

Want of space compels us to pass over the remaining valuable sections of the second division of the work.

The latter part of the work is devoted to the "Diseases of Troops on Foreign Stations," containing much useful statistical and professional information. The former exhibits the different rates of mortality at the more important foreign stations, and shows that these vary from 15 per 1000 in New South Wales and the Cape of Good Hope, to 143 per 1000 in Jamaica. We could have wished that Sir George had pointed out any probable means by which the latter fearful mortality might be diminished, and to what causes besides that of the increase of temperature it is owing. The subjects treated of in this division have been already enumerated. In treating of the contagious nature of yellow fever, Sir George adopts the non-contagious side of this "*questio vexata.*" With one of his analogical arguments we cannot agree, viz. that the yellow fever of the West is "identical" with the marsh remittent of the East, and as the latter is not contagious, so neither can the former. We can neither assent to the correctness of the premises, nor to the logic of the inference. We have seen not a few hundreds of cases of the remittent fever of the East; and in more than one instance the diffusion of the disease was more easily explicable on the theory of contagion than on any other. Add to this, that our recent experience of "yellow cases" of fever in our own country should make us pause before we conclude from analogy that every epidemic of yellow fever is not contagious. We do not say that it is contagious—we merely object to any attempts to decide so difficult and important a question by a reference to loose analogies. The following quotation expresses the author's opinion of the utility of venesection in this terrible disease:—

> "I may safely assert, that neither in fever, nor in any other disease, have I ever had occasion to regret the employment of blood-letting; while, on the other hand, I have frequently had to blame myself for its omission. Instead of confining the use of this evacuation to the most urgent cases of fever, where its use appears indispensable, I should be inclined in a great measure to reverse the rule, and to practise it in every case where some peculiar circumstances do not forbid its use. Youth, plethora, vigour, and a recent arrival from Europe, are circumstances which, in the opinion of many of our Indian practitioners,

will alone justify the employment of this evacuation in any disease, and are circumstances in which I should find many ready to acquiesce in its utility; but it appears to me, that although patients of this description will undoubtedly bear bleeding to a much larger extent than men of an opposite description, yet this evacuation becomes no less necessary in older men, to obviate the tendency of the disease to fix upon and impair the functions of the liver, from which an increase of years certainly affords them no exemption, and to which their residence in India, if of any duration, and the habits of the soldiery there, as certainly create a positive predisposition.'" P. 502.

TROPICAL DYSENTERY.—Sir George divides this disease into the acute and the chronic. We quite agree with our author, "that hepatic inflammation and dysentery are not so frequently co-existent in India as has been commonly stated and believed." P. 513. We have always considered Dr Johnson's theory on this subject as most erroneous. Dysentery, we believe, to be essentially inflammation of the mucous membrane of the large bowels, extending in the severe cases to the other coats of the intestine. Sir George coincides with Mr Twining's opinion as to the efficacy of venesection in acute dysentery.

> "The cure of severe cases of acute dysentery in plethoric patients should be attempted by the early, free, and repeated use of the lancet; with the aid of every other means by which we can subdue local inflammation and pyrexia. It will in general be requisite to bleed from the arm two or three times at the interval of ten or twelve hours, and to take as much blood each time as to decidedly reduce, and permanently keep down, any frequency and hardness of the pulse that may exist. And twelve or fourteen leeches should be applied, soon after each general bleeding, to that part of the belly where pressure causes the greatest pain." Pp. 515, 516.

With due deference, we think that too much is here said of general, and too little of topical, bleeding. The treatment of acute tropical dysentery in a robust patient we consider a very simple matter,—one free bleeding from the arm, from 2 to 6 dozen leeches to the anus and groins, repeated opiate enemata, and warm fomentations. Mercury has been terribly abused in this disease: when given, it should be in large doses, "few and far between," with full doses of opium, after general and local depletion. Sir George's chronic form of the disease, we should name "chronic diarrhœa," not "chronic dysentery." His description tallies well with that form of disease which commits such fearful ravages among the native soldiery, as a sequela of fever. We much demur to the proposed treatment.

> "If, in the acute form of dysentery, I refrain from any general or indiscriminate commendation of this powerful medicine, it is only to offer my testimony more strongly to its beneficial effects in the chronic form of the disease. The general success of mercury, under every form, in the cure of hepatic fluxes, shows the extensive powers of the medicine, and the little comparative importance of the form in which it may be administered, a point which, with some practitioners, seems to me to claim an undue share of attention. The quantity of the medicine to be exhibited must vary greatly in different individuals; it is always to be carried the length of producing considerable ptyalism; and this, wherever the exhaustion of the patient does not forbid it, is to be kept up with-

out intermission until natural secretions return, and the stools resume a healthy appearance." P. 517.

In our hands, especially in the cases above alluded to, calomel signally failed. We think that Sir George has omitted to mention the heroic remedy in this, and all "chronic" tropical diseases, whether among the European or native soldiery,—change of residence, and, if possible, of climate.

LIVER DISEASE.—We fully concur with our author's treatment of acute hepatitis.

> "With a view to obviate suppuration, and to promote the resolution of inflammation, blood-letting, both general and topical, is our chief resource; but, in addition to this, mercury has been long held to possess something like a specific influence in resolving inflammatory affections of the liver, and to its efficacy in such cases I can bear personal testimony. I am at the same time persuaded, that, from the high repute which this medicine enjoys, it has in some instances, particularly of the acute disease, been too exclusively trusted to. Practitioners seem now, however, to be generally aware, that, in patients of robust constitutions and sanguineous habits, full mercurial action is not easily induced until the tone of the system is lowered by bleeding and other evacuations. It therefore behoves us to remember, that, while bleeding in acute hepatitis cannot be too promptly resorted to, the exhibition of mercury may perhaps be deferred, without any ultimate disadvantage. It was common, in my time, in India, to look upon blood-letting as an evacuation which it was upon all occasions desirable to avoid, but this was a sentiment in which I never permitted myself to indulge; and in the regiment in which I had the honour to serve, an opposite practice was gradually established, both in fever and hepatitis, where something peculiar in the patient's habit or circumstances did not forbid it. In hepatitis, I have frequently observed, that when doubt or hesitation existed on the part of the practitioner, when half measures were adopted, and the early stage of the disease thereby neglected, it became extremely difficult of cure, apt to degenerate into a chronic form, and to become a troublesome companion for life. Under the apprehension of such a result, I have employed blood-letting to a larger extent than what the state of the pulse, the height of the symptoms, or the habit of the patient would seem to demand, and of such practice I have never had occasion to repent. I do not however mean to allege, that bleeding will altogether supersede the necessity of mercury, but that in the acute form these should at least go hand in hand, and that the latter should be pushed to the extent of producing ptyalism with the least possible delay. In the chronic form of the disease, it is to mercury we must chiefly trust for the re-establishment of a healthy action in the liver, and the restoration of healthy secretions. The relief experienced, in many cases of chronic hepatitis, so soon as the mercury affects the mouth, is truly surprising; the removal of all uneasy feelings from the side, the comparative clearness of the patient's skin and visage, the return of natural evacuations, and the removal of every complaint but debility, abundantly evince the powers of this remedy.
>
> "In either form of hepatitis, smart and habitual purging will materially promote the objects we have in view; and, in this instance, the preference so generally given to calomel in India, is, I believe, well founded." Pp. 522, 523.

In the chapters devoted to those curious, and in some respects obscure diseases, Biriberi, Burning of the feet, and Dracunculus, our author, in addition to his own experience, gives a succinct account of what is known regarding them up to the present day.

A brief summary of the diseases most commonly simulated by soldiers and seamen, in the hope of evading service, concludes the volume.

A very useful and carefully compiled Bibliographical Record of Works and Papers *on the diseases and accidents of soldiers and seamen, published by medical officers in Her Majesty's, and the Honourable East India Company's Service; with a few of the works of English surgeons in the service of foreign powers*, is added, in the form of an appendix. The unusual length to which our notice and extracts have extended, sufficiently indicate our opinion of the merits of the work; and in conclusion, we strongly recommend it to the medical officers connected with the public services, to whom it must prove an invaluable boon; and also to the practitioner engaged in civil practice, who will find it to contain much that will prove practically useful in the management of accidents from machinery, gunpowder, &c., &c., which so closely resemble in their nature and consequences, the casualties of warfare.

PART THIRD.

PERISCOPE.

PRACTICE OF PHYSIC AND PATHOLOGY.

On the Employment of Conium in Painful Diseases.

By J. Moore Neligan, M.D.

In commencing any new investigation into the medicinal action and uses of Hemlock, it becomes of much importance to take especial care that the preparations of the drug which we administer, should have their energy unimpaired, and the peculiar properties which exist in the recent plant be as little changed as possible. The preparation I have employed for the last two years, under the name of *succus conii*, is prepared as follows:—Take of fresh hemlock leaves any quantity, express the juice in a tincture press, set it aside for 48 hours, pour off the clear supernatent liquor from the fecula and chlorophylle which it has deposited, and lastly, add to it a fifth part, by measure, of rectified spirit.—This preparation I have found to keep well for two years, and its uniform strength, as well as the facility with which we can increase or diminish the dose we are administering, gives it a decided advantage over either the extract or the powder of the fruit or leaves. The best time for gathering the leaves, is when the plant is in full flower. Previous to submitting them to expression, the stalks should be carefully picked out and rejected, the leafy part alone being used. I have tried many ways of preparing an extract of hemlock which would maintain unimpaired the medicinal powers of the plants, and the best I find is to be obtained by submitting the expressed juice, prepared as above, to spontaneous evaporation; but even this extract, no matter how well and carefully preserved, soon looses all traces of *conium*.

Hemlock, when administered in medicinal doses to an individual labouring under disease, appears to me to produce its beneficial effects by allaying nervous excitability, and diminishing muscular pain; under its use also both the force and frequency of the heart's action are lowered, but in no instance have I seen it produce the least tendency to drowsiness or sleep. This is quite consonant with the account given by Christison of the action of hemlock when its poisonous effects are produced. The active principle, *conium*, according to the same able authority, produces a similar remarkable action on the spinal cord,—"a few drops killing a small animal, such as a rabbit, cat, or puppy, in a few minutes, causing general paralysis, slight convulsive tremors, and death from the suspension of the breathing, without any alteration in the appearance of the blood." Such being the effect of hemlock, and its alkaloid, when given in poisonous doses, it can be readily understood, that when administered as a medicine, it will produce no very apparent physiological action, and that in producing beneficial results, it appears to act insensibly on the system. The only manifest effect which I have seen it produce, is where its use has been persevered in for some time, or the doses rapidly increased, when the patient generally complains of a disagreeable sensation of dryness of the throat, with a feeling of constriction and difficulty of swallowing, amounting to actual pain, and which always compels us either to suspend the use of the medicine altogether for a few days, or greatly to diminish the dose in which it has been given.

The diseases in which I have administered hemlock with decided advantage are rheumatic affections, both subacute and chronic, particularly when attended with severe pain, neuralgia, and senile gangrene. And although I have employed it very extensively, both in hospital and private practice, in those diseases, I have met with but very few instances indeed in which this remedy failed in affording relief; nevertheless some cases occasionally occur in which, as is the case with most other medicines, it does not appear to produce the least benefit. [The author details at length six cases illustrative of the therapeutical virtues of the medicine. We give the first in a condensed form.]

L. M'C. has been engaged as a labourer on the railroad for the last two years, previous to which time he had been at work in Scotland, but always enjoyed good health till he came to Dublin. His occupation has obliged him of late to be up frequently all night in the most severe weather, and to be exposed to the greatest vicissitudes of temperature. After a severe wetting on one of these occasions, about five months since, he was attacked with severe pains in nearly every joint in his body; but he continued to work without intermission, although suffering severely, until the last few weeks, when, in consequence of the pains and the stiffness of his joints increasing so much, he was compelled to apply for admission into hospital.

On the 5th of April, the day after his admission, he was ordered house medicine, so as to act on the bowels freely, and on the following day he was directed to take 30 minims of the *succus conii* three times a-day, in a glass of water.

April 11. Since last report he has gradually improved, and is much freer from pain, which seems now to be principally confined to the shoulder-joints and to the small of his back. The dose was increased to 40 minims three times a-day. The bowels being confined, he was ordered house medicine to-day.

14*th*. Much freer from pain to-day, but complains of a disagreeable sensation of dryness of the throat, accompanied with a feeling of constriction, and some difficulty of swallowing. The drops were omitted, and he was ordered saline cathartic mixture.

16*th*. Since the omission of the drops, the pains have again become more severe, but the unpleasant sensation about the throat has quite disappeared. To take a grain of the extract of hemlock (prepared by the spontaneous evaporation of the expressed juice) every night at bed time.

18*th*. Twenty minims of the *succus conii* to be taken three times a-day; the pill to be continued.

24*th*. Much improved to-day, the pains being now confined to the shoulder-joints, and not occurring until towards nightfall. The dryness of the throat, and difficulty of swallowing, have, however, again returned. House medicine, so as to affect the bowels; the drops to be omitted. To take one grain of the extract of hemlock three times daily.

May 1*st*. Quite free from pain to-day. Ordered, at his own request, a warm bath to-night.

3*d*. Discharged to-day perfectly cured.

I have tried the effect of hemlock in only two cases of senile gangrene, and in both I have found it an excellent adjunct to opiates. In one of those cases, which occurred in private practice, and in which the disease lasted from the 9th of May to the 29th of June 1843, the mortification having reached nearly as high as the knee before the disease terminated fatally, the most distressing symptom was a constant twitching of the tendons of the affected limb. This unceasing cause of suffering was not in the least alleviated by the use of opiates, which were administered, but was at once removed by the use of hemlock juice; and by a perseverance in its employment, was kept completely in check throughout the whole of the illness.—Abridged from the *Dublin Journal of Medical Science*, for November 1844.

SURGERY.

ON THE NECESSITY OF THE BLEPHAROPLASTIC OPERATION:—BASED ON A CASE OF REMOVAL OF THE EYELID. BY M. GERDY.

[It is well known, that much and varied ingenuity has been exercised in supplying the deficiency of the eyelids, connected with ectropium and other morbid states of the organ, and that this operation has been regarded as one of the most signal triumphs of modern surgery. M. Gerdy, from a recent case, has been led to question the necessity of this operation in any instance; and, assuredly, if he can remedy the melancholy deformity better, and without inflicting the attendant pain upon the patient, he will be entitled to a civic crown. He gives the particulars of his case, which will allow the reader to judge for himself.]

A husbandman of St Ouen, aged 42, was admitted into "La Charité" of Paris, on the 8th February 1844, where he had been a patient four years before. At that time he complained of a small ulcerating tumour, situate some two or three lines from the outer angle of the left eye, accompanied with an inversion of the ciliæ of both eyelids. The tumour was extirpated, and the edges of the upper and under eyelids were removed so far as the ciliary bulbs were compromised. This removal was attended with the result that was anticipated; the edges of the eyelids cicatrized, deprived of the eyelashes; lacrymation ceased, and the eye recovered in a way altogether satisfactory. It was different, however, with the tumour, (which was one of *noli me tangere*,) which reappeared in both eyelids, and demanded the complete removal of the upper eyelid, and the partial extirpation of the lower. This operation was performed on the 4th of April. M. Gerdy divided the external angle of the eyelids, then circumscribed the tumour of the upper lid, by a semicircular incision, with the concavity downwards, commencing at about a line and a half from the inner angle, so avoiding the superior punctum, and finishing at the external angle. The operator removed the whole portion included in the incision, with the exception of a small part of the mucous membrane, which he reserved near the outer angle, for the purpose of folding over the margin of the upper wound, at the spot corresponding to the outer angle, to prevent the adhesion of the two parts, and that it might extend itself over the inner aspect of the lid. The partial excision of the lower lid was performed in the usual manner.

After this, M. G., that he might ascertain the necessity of replacing the upper eyelid by means of a new one from the neighbouring healthy skin, desired the patient to close the eye upon which he had just operated, and this was effected thoroughly by the corrugation of the eyebrows. This fact demonstrated that the operation by blepharoplastice, which had been contemplated, was unnecessary, and that the patient might be spared much suffering. All thoughts of it therefore were abandoned.

Compresses dipped in cold water were applied for some days subsequent to the operation, after which a moderate suppuration supervened. Large granulations appeared on the edges of the mucous membrane, and of the skin, which were repressed by means of the nitrate of silver, and gradually they formed a thin cicatrized tissue, even, shining, and solid; and which constituted the margin of the eyelid. As early as the 20th of the month, the result of the operation could be foreseen. At the first glance there did not appear much difference in the appearance of the two eyes. The left eye could be quite shut, by a somewhat forced winking, the effect of which was to lower the eyebrow and subjacent skin. If the winking was slight, the two eyelids of the left eye were not quite in contact, a fissure nearly a line broad remaining. The cornea, notwithstanding, was completely protected, as the eye was invariably, at the moment, carried upward, and the sclerotica alone appeared in the *rima palpebrarum*. Lacrymation, and all the other unpleasant symptoms, were thus completely removed.

We conclude this interesting notice with M. Gerdy's own observations. This case, he remarks, demonstrates that we should not despair of the powers of nature in the severest lesions of the eyelids, and should not hastily determine to abstract from the forehead, the temple, or cheek, an ignoble strip of skin, to assign to it a more noble part of the physiognomy. The eyelids are organs so fine and delicate, so regular and beautiful in their relation to the eye; they are so pliant, mobile, and rapid in their movements—so powerful in expression in shutting and opening the eye, that it is difficult adequately to replace them by a slip of skin procured from their neighbourhood. Hence, what is obtained is an ungraceful and nameless something, which we can scarcely call an eyelid—a something which greatly changes the physiognomy, impedes the vision of the patient, shocks the eye of the beholder, and more resembles a shapeless plaster which disfigures, than an eyelid fitted to embellish and protect the eye, and assist in the performance of its functions. Assuredly, were we only to consider the deformity, impotence, and other imperfections of these pretended eyelids which we with pride exhibit, when we have ourselves made them, with a kind of paternal fondness, and still more were we to consider the extreme pain which their formation occasions, we should for ever discard blepharoplastice from operative surgery. We have no wish, however, for one unworthy member to proscribe the whole family of *plastics*. By the parts which autoplastic operations more or less completely adjust, with the help of needles, pins, and threads, waxed and unwaxed, blepharoplastice as much resembles tailors' work as an operation in surgery; moreover, by the sudden contrast of the colour of the several parts that are approximated, it puts us in mind of a patched garment; but though it somewhat humbles the art, yet being of extreme utility, it ought gratefully to be preserved.—*Journ. de Méd. et de Chirurg.*, Oct. 1844.

RARE CASE OF MILK CYST IN THE BREAST, UNDER THE CARE OF M. JOBERT, Hôpital Saint Louis.

A young woman, aged 26, of good constitution, was admitted into hospital on account of a tumour of the right breast: it had attained the size of the head of a child nine months old, was globular, without change of colour in the superincumbent skin, was without pain, resistant, hardly compressible, but evidently fluctuating, yielding the sensation of a vessel very full of fluid; it was moveable at the base, and could even be somewhat displaced under the integuments. The skin covering it was thin and flabby, rolling under the fingers, and yielding a sensation similar to that which would be produced by granular bodies situated below the cellular tissue; two large veins ran vertically over its surface. The tumour was situated exactly at the internal side of the nipple and mammary gland; it was pendulous, and in the course of its development had pushed the gland upwards and outwards, the latter, however, partially adhered to it. There was no transparency on examining it with a candle. On pressing the nipple, milk could be squeezed out; this, however, was also the case in the other breast, as the woman had had a child two months previously. The following is the patient's own statement regarding it:—She has had four children, and the tumour first appeared six years ago, after her first delivery; it was small at first, and on pressing it, milk appeared at the nipple, even a long period after the delivery. After her second confinement the tumour increased in size, as it did also after her two subsequent; pressure on the tumour always caused milk to escape by the nipple, so that from the period of her first confinement the milk had never entirely disappeared from that breast. The tumour, however, acquired its greatest development only after the last delivery; at that period it was much larger than it is now, and was accompanied with a painful feeling of distention, which was only relieved by squeezing out the milk from the breast by means of repeated pressure; this, at the same time, caused the tumour to diminish in size. Such is the history of the disease. M. Jobert diagnosed a cyst. But no one suspected the nature of the fluid it contained. Previous to operating, M. Jobert made a small exploratory puncture by means of a trochar; to his astonishment there immediately followed a jet of pure milk, a glassful was allowed to escape, which was afterwards sent to the laboratory of the Faculty for analysis. It was inodorous, and had the slight opaline tint of healthy milk. As M. J. had no expectation of being able to cure the tumour by evacuating the fluid and injecting irritating substances into the cyst, owing to the enormous size of the pouch, which rendered it impossible that its thin and flabby parietes would contract sufficiently to adhere, and as the patient urgently requested to be relieved of it in the speediest way, he determined to remove it by operation. By means of a bistoury he made an oval incision, and dissected out the flap so as to remove part of the loose superabundant tissue; he then opened the cyst, and nearly a pint of milk escaped; the entire removal of the pouch was accomplished by dissection by means of scissors, bistoury, and forceps. The cyst adhered, at its upper and external part, to the mammary gland, it had also formed attachments to some small neighbouring tumours; the whole of the diseased parts were completely dissected and removed. The wound having been washed, and several small vessels tied, milk was perceived to escape from a point at the bottom of the wound corresponding to the mammary gland. It proceeded from some lactiferous vessels which communicated with the cyst, and had been divided. The wound united by the first intention.

On subsequent dissection of the parts, several remarkable, as well as unexpected conditions were found. The principal cyst was of large size, thin, and polished, like serous cysts in general; in its centre, there was an ulcerated spot of the size of half-a-crown, with raised irregular edges; its base appeared somewhat infiltrated with milk. On examining attentively this serous pouch, several small openings were discovered; through one of these a probe was passed, which led to a group of granulations in the mammary gland which had been removed along with the cyst. This passage was discovered to be an enlarged lactiferous vessel, and there were many others. It was now evident that several enlarged and hypertrophied lactiferous vessels proceeded from various granular groups of the mammary gland, and communicated with the cyst; and that through them, the milk which had been met with, had been poured. This also satisfactorily explained how milk should have escaped from the nipple when pressure was made on the tumour, and its diminution in size. The lateral cysts were three or four in number; one of them had attained the size of an egg, the others that of a nut, they all contained milk, and communicated with groups of granulations in the gland.

Mention has been made of milk cysts in the breast in several works, and also by Dupuytren in his lectures. But a general description of these tumours has nowhere been given, and the details of individual cases which we meet with are usually so slight, that we may safely assert that the nature of these cysts has yet to be studied. A paper on this subject, however, has appeared from the hand o the celebrated Sir Benjamin Brodie of London. The general description given by Sir B., is entirely confirmed by the case of M. Jobert. It is impossible, indeed, after mature deliberation, to doubt that these cysts owe their origin to a dilatation of some of the lactiferous vessels, and that the ulceration met with in the case of M. J., was but the commencement of a fungous process which occurs at a certain period of the disease, exhibited by the facts stated by Sir Benjamin. According to the latter, it is absolutely necessary to remove the whole breast; but it is probable that, in the case of M. J., a cure may be effected by the removal of the cyst alone. It remains to be seen, however, whether the small tubes yielding milk at the bottom of the wound will be obliterated, or whether they will again produce a new cyst; the result of the case alone will show.—*Annales de Thérapeutique*, September 1844.

CASE OF FUNGUS FROM THE SYNOVIAL CAPSULE OF THE KNEE, UNDER THE CARE OF M. GERDY, of the Hôpital de la Charité, TREATED BY COMPRESSION.

The subject of this case is a young man, aged 30, of a lymphatic and deteriorated constitution. On the internal surface of the knee there is an ulcer of the size of the palm of the hand, from whose base has sprung an ill-conditioned fungus of the size of half an orange, and which, according to M. Gerdy, originates from the external surface of the synovial capsule, and has no communication with the joint. The articular movements are quite free, and cause no discharge of pus, as would be the case if the disease communicated with the synovial cavity. In M. Gerdy's opinion this is the best test that can be employed for the purpose of ascertaining if a tumour containing fluid, and which has been opened, communicates with the neighbouring articulation or not. The patient has an affection of the same nature on the dorsal surface of the wrist. The fungus neither appears cancerous, nor has any tendency to bleed: at the knee, as well as at the wrist, it is composed of an enormous number of granulations of the size of a nut, having a greyish colour, and of a soft dirty aspect, and yielding a large quantity of fetid pus. The means employed by M. Gerdy for the treatment of this affection are, compression by means of strips of adhesive plaster, and under the influence of these, and rest, the disease is improving. M. Gerdy has met with one other case of this rare disease; it was situate at the elbow-joint, and occurred in an individual in whom he had amputated the leg, but who refused to submit to the loss of his arm: it was treated by compression, and a cure followed, but there was anchylosis of the joint.

In a pathological point of view this is a rare affection; indeed, it is the first time we have met with it. An attentive examination of the joint leads to the idea that there is hypertrophy of the whole synovial capsule, with tendency to fungus from its external surface. It appears to us that the affection may be compared to certain non-cancerous fungi which occur on the mucous membrane of the alveolar processes, and which have been denominated epuli. Its co-existence at the knee and wrist at one and the same time, and the deteriorated state of the constitution, would lead us to suspect that it originates from some peculiar diathesis. There are, however, no distinct signs of scrofula, although the patient has a pale cachectic look; but this appearance is, perhaps, an effect of the local disease itself. However this may be, M. Gerdy has commenced the treatment by compression, to which he proposes to add the internal use of the iodide of potassium. A marked diminution in the size of the vegetations has already taken place, under the use of the compression alone.—*Annales de Thérapeutique*, Sept. 1844.

PART FOURTH.

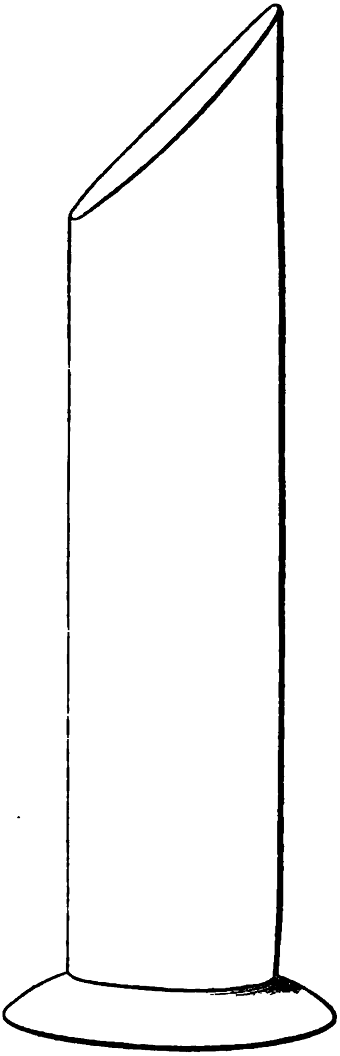
MEDICAL NEWS.

LETTER FROM DR WARDEN TO THE EDITOR, DESCRIBING A UTERINE SPECULUM.

To Dr Cormack, Editor of London and Edinburgh Monthly Journal.

Dear Sir,—The sketch of my experiments and observations of the utility of my Prismatic Specula, in the investigation of disease, which I lately presented to the Medico-Chirurgical Society of Glasgow, embraced many details in which the Society expressed a lively interest. But as the substance of that paper is not designed for the press at present, I am desirous of announcing, through the pages of your Journal, what were the topics and facts included in my communication.

They were briefly these:—The proved practicability of illuminating and revealing to observation, disease in the depths of the open cavities of the body; including the interior of all the hollow viscera of the pelvis with their outlets.—Also, that I saw no insurmountable obstacles to the convenient and thorough exploration of the diseases of the larynx and gullet. In connection with these topics, I exhibited and explained the forms of the instruments I have devised, as suited for the exploration of these several regions of disease; and I would now beg to bring more particularly under attention and recollection two instruments, which I produced and explained to the meeting; because, as their utility was not wholly dependent on the application of the prism, it is probable that their construction may have escaped notice. Their peculiarity consists simply in the ivory tube, cut in the form represented in the margin, and which is to be introduced with a piston, or plug, of corresponding shape. The advantage of this arrangement amounts to little short of all that is supplied by my more complicated instrument. When the uniformly cylindrical speculum ordinarily employed is introduced into the vagina or rectum for observation of unknown disease, the mucous membrane is pushed in a confused heap before its extremity; and in the same manner, when the instrument is being withdrawn,



the passage puckers and closes with all rapidity after the receding instrument, so as completely to prevent an extended, flat, and distinct view of any portion of the mucous walls which may be the seat of disease. By the simple abscission of an oblique slice of the speculum, as represented in the drawing, and in the two instruments I exhibited, an extended lateral view of the passage in every part of its walls may be brought into the direct axis of vision, and is thus favourably placed for the application of whatsoever topical treatment may be necessary. I am, dear Sir, faithfully yours,

3 Baxter's Place, Edinburgh, **Adam Warden.**
18th October 1844.

SUDDEN DEATH OF DR ABERCROMBIE, FROM THE GIVING WAY OF SOME OF THE EXTERNAL FIBRES OF THE LEFT VENTRICLE, AND THE CONSEQUENT EFFUSION OF BLOOD INTO THE PERICARDIUM FROM RUPTURED CORONARY ARTERIES AND VEINS.

It is our mournful duty to announce the sudden and premature decease of this great and good man. The sad event, which has deprived the profession of one of its brightest ornaments, and Edinburgh of one of her best citizens, took place at his residence, in York Place, on Thursday the 14th of November, between the hours of nine and ten o'clock in the morning. About nine he finished a hearty breakfast; his carriage was waiting for him at the door, and some patients were likewise in attendance,—when, from his being unusually long in leaving his private room, his servant entered it, and found him lying prostrate and dead on the floor, with his arms extended. From the position of the body, and from other circumstances, which we ascertained, but which it is not necessary to particularize, it would appear, that he had hurriedly advanced a few steps towards the door after feeling ill, and had then, when he found himself falling, extended his arms to save himself, but without doing so in any degree, as we infer from the nature and severity of a bruise upon the nose:—it was evident, in fact, that he had come to the ground a helpless and a lifeless weight.

Dr John Abercrombie was born on the 10th October, 1781. His father was a respected clergyman of the Established Church of Scotland, in the city of Aberdeen. He graduated at the University of Edinburgh on the 4th of June 1803, writing for his thesis, "De Fatuitate Alpina." We have often been told by one of his early friends,—one who was called as suddenly, as he was, from the shifting scenes of time,—that as a Student of Medicine, Dr Abercrombie displayed that same deep, practical, unobtrusive piety, which in after life was the main-spring and regulating principle of his every action,—the charm by which his talents were enabled to command the confidence of his patients, and of the profession, to an extent, if equalled, certainly never surpassed by a physician. After a short period of study in London, Dr Abercrombie was admitted a Fellow of the Royal College of Surgeons of Edinburgh, upon the 12th of November 1804, upon which occasion he submitted to the President and Council of that body his "Probationary Essay" on "Paralysis of the Lower Extremities from Diseased Spine." This paper is characterized by the same clear and terse style which is to be seen in all his subsequent writings. He now took a house in Nicolson Street, and commenced practice as a general or family practitioner. At this period, he devoted a great portion of his time to attendance on the poor, as one of the medical officers of the Royal Public Dispensary. In 1811, and subsequent years,—when he had around him an effective body of ardent pupils, to whom he had succeeded in imparting much of his own enthusiastic passion for the careful clinical study of disease, he divided the city into districts, to each of which he attached several pupils. By his own zeal, and the hearty co-operation of his pupils, he thus became the instrument of much good to the poor; whilst at the same time, he furnished himself with that rich field of observation, which afterwards formed the basis of his future fame, eminence, and skill as a pathologist and practical physician. About this time he was appointed vaccinator along with Drs Bryce and Gillespie; and with these eminent colleagues he took an active and efficient part in the introduction of the important discovery of Jenner.

In 1806, he published in the 12th volume of the *Edinburgh Medical and Surgical Journal*, "A case of Cynanche Laryngea;" and in the Quarterly Report of the Royal Public Dispensary, which appears in the same volume, are to be found some remarks from his pen on "Tobacco injection in Dysuria." After this he continued for many years a frequent contributor to that celebrated miscellany; and, indeed a large proportion of the cases which formed the basis of his works on the Pathology of the Brain, and of the Abdominal Viscera, originally appeared in its pages.

On the death of Dr Gregory in 1821, he became a candidate, (along with Dr John Thomson and others) for the chair of Medicine in the University of Edinburgh.[1] At that time, however, political feeling and Professorial influence of a kindred bias, were omnipotent in the Municipal Council of Edinburgh; and hence, neither Abercrombie nor Thomson was appointed.[2] It was at this time that Dr Abercrombie gave up general practice, and became exclusively a consulting physician. To enable him to carry out this change with propriety, he became a Fellow of the Royal College of Physicians.

In his letter to the Lord Provost and Magistrates, announcing himself as a candidate for the chair of Medicine, he gives the following list of his works. 1st, On Diseases of the Spinal Marrow. 2d, On Dropsy; particularly on some modifications of it, which are successfully treated by blood-letting. 3d, On Chronic Inflammation of the Brain and its Membranes, including researches on Hydrocephalus. 4th, On Apoplexy. 5th, On Palsy. 6th, On Organic Diseases of the Brain. 7th, On a Remarkable and Dangerous Affection, producing difficulty of breathing in Infants. 8th, On the Pathology of the Intestinal Canal. Part 1, On Ileus. 9th, Ditto, Part 2, On Inflammation of the Bowels. 10th, Ditto, Part 3, On Diseases of the Mucous Membranes of the Bowels. 11th, On the Pathology of Consumptive Diseases. 12th, On Ischuria Renalis. In 1824, appeared in the *Medico-Chirurgical Transactions of Edinburgh*, two memoirs by him, the one "On the Pathology of the Heart," and the other on "The Nature and Origin of Tuberculous Diseases." His famous work on Diseases of the Brain and Spinal Cord was published in 1828. This was followed by an enlarged edition of his work on the Intestinal Canal, under the new title of a Treatise on the Diseases of the Abdominal Viscera. His well-known work on the Intellectual Powers and the Investigation of Truth, appeared in 1830; and in 1833, his "Philosophy of the Moral Feelings." About this time also, he published a pamphlet entitled "Suggestions on the Malignant Cholera," and a short treatise on the "Moral Condition of the Lower Classes in Edinburgh." Besides the works which we have mentioned, he published several beautiful and highly useful Christian tracts, which were lately reprinted in one volume; and but a few weeks before his death, he brought out, what is perhaps the best of all his religious writings, "Part First" of his "Elements of Sacred Truth for the Young." We quote the concluding paragraph of the introduction to this little work, as well calculated to pourtray the goodness of the author's heart. "Should the work on which the author has thus entered be found useful as a manual, he will esteem it the highest distinction that can be conferred upon him. By the favour of the public, his former writings, on various subjects, have attained a most extensive circulation, and have received the most gratifying marks of approval. The ambition that now remains to him, is to have his name associated with those solemn and sacred hours, when the Christian parent calls around him the children of his heart, and,—feeling all the uncertainty of life which is passing over them,—seeks to raise their minds to a life that is never to end."

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[1] His letter of application to the Town Council, which is now before us, is dated 19 York Place, 2nd May 1821.

[2] The death of Dr Gregory occasioned several changes in the University. He was succeeded in the chair of Medicine by Dr Home, then Professor of Materia Medica, and Dr Home was replaced by Dr Duncan, the Professor of Medical Jurisprudence, whose place, thus vacated, was supplied by Dr Christison.

In 1834, the University of Oxford, in token of respect, conferred upon him the honour of its medical degree.

In 1835, he was elected Lord Rector of the Mareschal College of Aberdeen. The excellent inaugural address which he delivered to the students upon the occasion of his installation was extensively circulated at the time, and afterwards published, under the name of "Culture and Discipline of the Mind."

In 1841, Dr Abercrombie had a slight attack of paralysis, from which, however, he soon and completely recovered; and up to the moment of his death enjoyed good health. He was never known to complain of any symptoms indicating disease of the heart.

As has been already stated, Dr Abercrombie died on the 14th of November. On Saturday the 16th an examination of the body was made by Mr John Goodsir, in presence of various medical gentlemen.

The Encephalon was in every respect healthy, with the exception of the arteries, which exhibited, in a very marked degree, the atheromatous deposit. There was no trace of old or recent effusion of blood. The internal carotids at their entrance into the cranium were rigid, and somewhat dilated. None of the vessels were preternaturally distended. The ventricles contained a considerable quantity of serum; and were of great size, corresponding to the enormous development of the encephalon, which weighed 63 ounces avoirdupois, being, therefore, one of the heaviest brains on record.[1]

The Pericardium and Heart, &c.—On opening the pericardium, the heart was found enclosed in a mass of coagulated blood, which completely concealed it. On removing this clot, and raising the heart from the pericardium, a rupture, half-an-inch in length, was found on the posterior surface of the left ventricle, half-way between the left edge of the septum, and about mid-way between the base of the ventricle and the apex: the direction of the rupture was that of the axis of the ventricle; it did not extend into the cavity of the heart. The ruptured surface was ecchymotic; as was likewise, in its immediate neighbourhood, the substance of the ventricle itself, although covered by the pericardium. The heart was enlarged and dilated in a very slight degree; it was considerably loaded with fat; and very soft in texture, as if from imperfect nutrition. The aorta presented a considerable quantity of atheromatous deposit. The valves were not altered in form though they presented some atheromatous spots. The orifices of the coronary arteries were dilated; and throughout the heart, they had undergone the atheromatous degeneration; a branch of one of them passed down to the rupture, but its opening into the rupture could not be detected. A bristle was introduced into the ruptured orifice of a considerable coronary vein, and easily passed up towards the base of the heart.

The other viscera were healthy.

Cause of Death.—It appears then, that the cause of death was a mechanical hindrance to the contractions of the heart, from effusion of blood into the pericardium by ruptured coronary arteries and veins. It is probable that the heart,—softened from impaired nutrition dependent on the atheromatous state of its arteries,—was torn, in the manner described, during its contraction.

FUNERAL.—Although it was the wish of his family, that the funeral should be strictly private, the applications for leave to attend were so numerous as to render it necessary to extend the arrangements to a considerable degree. On leaving York Place, the procession consisted of the hearse, his own empty carriage, eighteen mourning coaches, and a great many private carriages. On arriving at North St Andrew Street, the Free Church Presbytery of Edinburgh, and the Commission of the Free Church, joined the procession,[2] the members walking four deep, with

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[1] According to the observations of Professor John Reid, (MONTHLY JOURNAL for 1843, p. 319,) the average weight of the encephalon of a man between 50 and 60 years, is 50 ounces and 2 drachms. The two heaviest brains which we recollect, are those of Cuvier and Dupuytren; the former of which was 63, and the latter 64 ounces.

[2] Dr Abercrombie held the office of elder in Mr Bruce's congregation, in connection with the Free Church of Scotland.

Dr Chalmers as Moderator of the Presbytery, and Mr Grey as Moderator of the Commission, in the rear. On reaching No. 119 George Street, (the temporary Hall of the College of Physicians,) the Royal College of Physicians, and the Royal College of Surgeons, amounting to about 150 gentlemen, met the funeral, and preceded it, four deep, the Surgeons in front, having their President, Dr James Simson, walking behind the members, and the Physicians in like manner having their President, Dr Robert Renton, walking in the rear. On reaching the gate of the West Church-yard, those public bodies opened up right and left, and stood uncovered, allowing the body, mourners, and friends, to pass between their ranks, after which they followed the procession to the grave in reversed order, having their respective office-bearers in front. In addition to those immediately attending the funeral, there were great crowds of the community, waiting the arrival of the procession throughout the streets, evincing the esteem in which the deceased was held by all classes. The ceremonial was unostentatious, and profoundly solemn.

Dr Abercrombie's mind was eminently *practical*, a trait which shone forth conspicuously in all his writings, alike on medicine, morals, and religion. He scrutinised facts with singular jealousy; and we have heard it well remarked by a physician, that "what Abercrombie recognized as facts *must be facts*."

Dr Abercrombie possessed every qualification required by the consulting physician—punctuality, an honourable and considerate bearing to his brethren, and a singular quickness of apprehending the nature of the case on which he was called to give an opinion. At the bedside he was quite at home; there it was, that the depth of his penetrating glance, and the sagacity of his mind, were best seen and known. Those who were not acquainted with his manner, were often startled, on their first consultations with him, at the rapidity and accuracy of his diagnosis and prognosis. Although, doubtless, he completed a process of induction in his own mind, yet he was in the habit, unless particularly asked to do otherwise, to communicate only the *result* of his reasoning, and that in words as few and plain, as the English language could supply.

For the present, we will say no more of the great man who has left us; but upon some future occasion, when the present lamentations shall have subsided, it may be well—should no suitable pen in the interval take up the theme—for us, to call the attention of our readers to a special consideration of his writings, the principal incidents of his life, and chief points of his character, especially as connected with the history and present state of medical science.

J. R. C.

TO READERS AND CORRESPONDENTS.

In the January and February Numbers, the following ORIGINAL ARTICLES will appear:—

1. PROFESSOR CHRISTISON. On Certain Cases of Functional Disorder of the Heart, which are apt to be confounded with Hypertrophy.
2. DR CORMACK. On the Differential Diagnosis and Treatment of Acute Inflammation, Simple Congestion, and True Hypertrophy of the Spleen.
3. DR EASTON. Case of alleged Infanticide, in which it was supposed that death was caused by a quantity of Mud having become impacted in the Œsophagus.
4. PROFESSOR GREGORY. On the study of Chemistry, with especial Reference to Physiology.
5. DR KING. Case of Accidental Avulsion; with Remarks.
6. DR WILLIAM KEITH. Hospital Statistics of Diseases of the Joints.
7. PROFESSOR MILLER. Case of Traumatic Tetanus, treated by Indian Hemp.
8. DR PEACOCK. Case of Aneurism of the Ascending Aorta, opening into the Right Auricle:—Fatty Degeneration of the Muscular Substance of the Heart.
9. PROFESSOR SIMPSON. On the Expulsion and Extraction of the Placenta before the Child.
10. DR SPITTAL. On the Physical Diagnosis of Peritonitis.
11. PROFESSOR SYME. On a New Method of treating Fungus of the Testicle.
12. DR WARDEN. Observations on Diseases of the Ear, and on the importance of their minute investigation, as tending to their more accurate diagnosis and satisfactory treatment.

⁂ There will also appear the SECOND SERIES OF SURGICAL CASES BY DR HANDYSIDE, including one of Laryngismus Stridulus following the accidental introduction of Sand into the Trachea, for which the operation of Tracheotomy was successfully employed, a narrative of which is to appear simultaneously with our present number, in the *Northern Journal of Medicine*, without the permission, and contrary to the remonstrances of Dr Handyside, addressed both to the reporter, Dr Fleming, (late clerk to Dr Handyside) and to the Editors of that work. This statement we have been requested to make.

ERRATA IN LAST NUMBER.

Page 978, *for* "Dr Key Robertson," *read* "Dr Hey Robertson."
—— *for* "Special Diseases," *read* "Spinal Diseases."
Page 993, *for* "George Street," *read* "Queen Street." It is in Queen Street that the new building is being erected. The old Hall was in George Street.

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